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AMIGA WORLD

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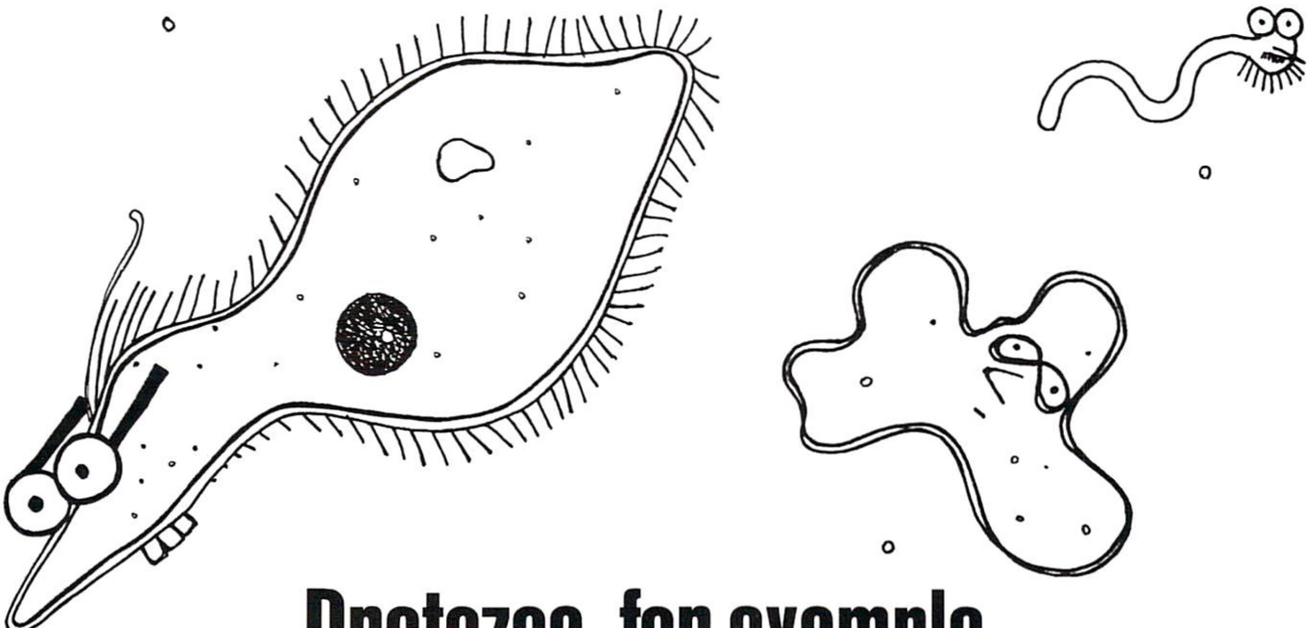


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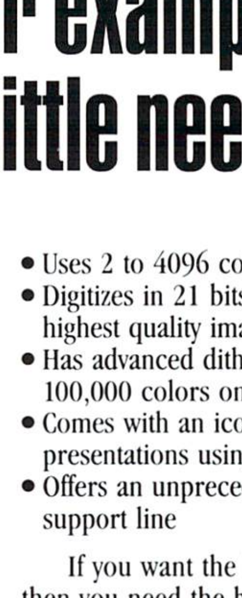
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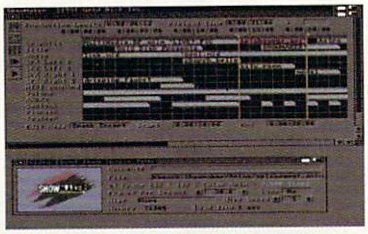
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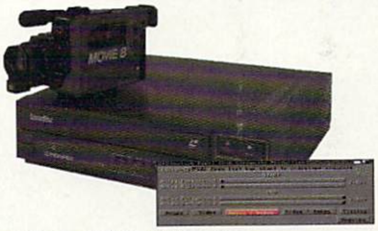
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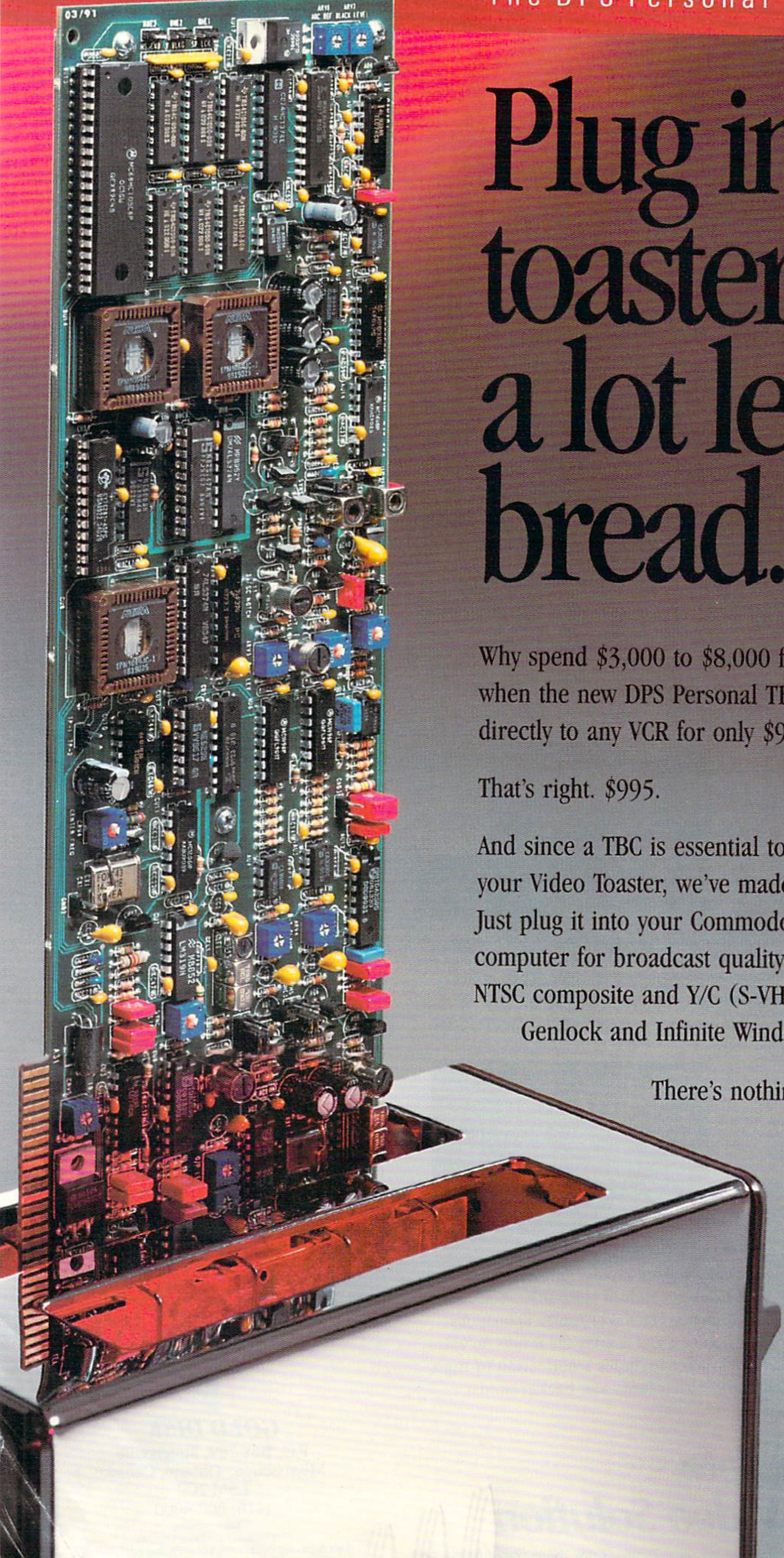
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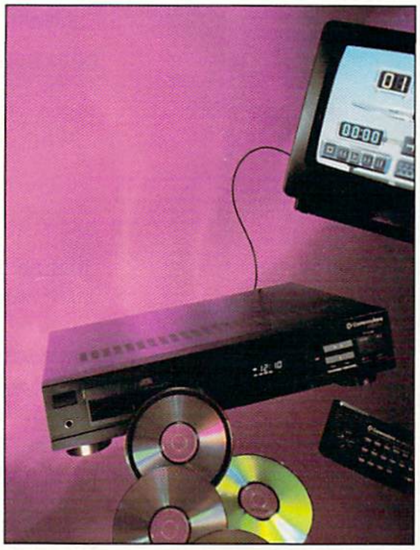
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C·O·N·T·E·N·T·S



Amiga CD in the comfort of your living room? Commodore's new A500-based CD system plays CDTV titles (see our Buyer's Guide), regular audio CDs, and the new CD+Graphics discs. Also this month: Tips, techniques, and programs for greater productivity from your Amiga.

COVER PHOTOGRAPH BY ED JUDICE

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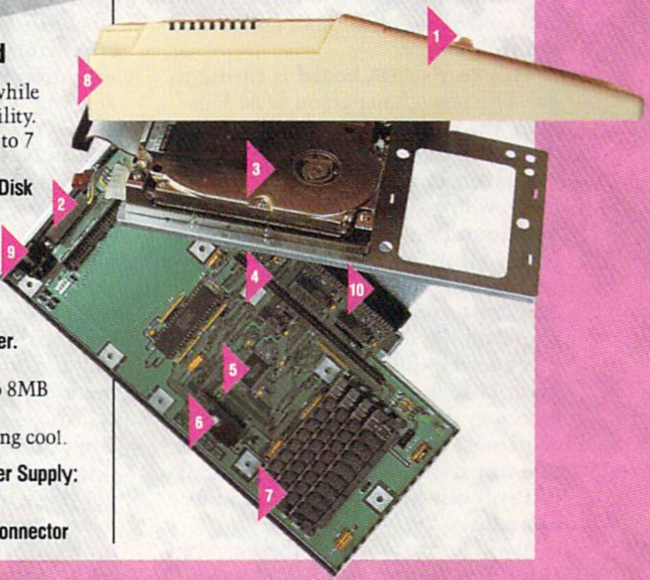
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CHIEF CONCERNS

Hip, Hip, ADA!

WHEN I GOT here a couple of years ago, the lack of respect for the Amiga got me hotter than a yuppie in a jacuzzi. Amiga users hadn't exactly stood still for this type of treatment. In fact, most had done their share of R&R (ranting and raving).

Unfortunately, all this energy lacked direction, and your complaints were all too easy to ignore. The situation clearly would not do.

So a bit over a year ago, the Amiga Developers' Association was launched as a concerted effort to correct the Amiga's credibility ills. In its first year, the ADA established itself as a legal organization in all 50 states, thus setting the stage for a long and hopefully glorious future.

A new board has recently been established, and its first meeting took place with the help of an AT&T operator and some of its swell conference-call technology.

This year's ADA board is raring to go. The new chairperson is Al Hospers, the energetic head of Dr. T's, the music software maker. The 1st vice-chairperson is Melissa Jordan Grey, who, as president of Blue Ribbon SoundWorks, has ignored competitive instincts to work alongside Al.

Our 2nd vice chairperson is Perry Kivolowitz, who, as head of ASDG, launched the acclaimed Art Department series and who happens to have great taste in Italian restaurants. The secretary is Debbie Miller, from New Horizons, of graphics software fame, and our treasurer is Jerry Wolosenko, of Psygnosis, the well-known game extremists.

Associate members of the board include Joe Lowery, of AMI Shows, Inc., Bob Wolter of Micro-Pace, and yours truly of *AmigaWorld*.

I'll be the first to admit the ADA is a small organization. The membership is tiny, the coffers nearly empty, and it lacks a professional support staff. But size isn't everything. Focus is. In order to be effective, the ADA has honed its focus into a single goal; to promote the Amiga. And in this, I believe the ADA will be remarkably successful.

The timing couldn't be better. First, the Amiga's ascendancy in multimedia and its penetration into the video fields have given the machine credibility. We've got Mac users drooling (more than usual), for goodness' sake! And the press has clearly taken notice.

Second, Commodore's new American chief, Jim Dionne, has already broadened distribution, added greater support for small dealers, and worked to lower the price and increase the prestige of the A500, which will turbo-charge that side of the market. Jim had the Amiga going gangbusters in Canada, and there is no reason he can't do it here, especially with all of us behind him.

And with CDTV about to blow, we've got the big boys like Tandy, Microsoft, and Philips on the run.

Finally, readers of Amiga publications have done their part. Nearly every day I get copies of magazines that include letters from readers demanding more Amiga coverage. A recent issue of *Publish!* ran one such letter and then pledged to cover the Amiga more aggressively. Hey, we've got these folks primed!

To maintain the pressure, the ADA is already at work on position papers to be sent to the computer press, and is putting together a major membership drive. It also plans to communicate with its members through a regular newsletter. But most of all, it plans to lobby for our system, so that a decade from now we can load DPaint 12, which will control our Video Microwave on our tried-and-true, 68090-based Amiga 18000.

For those interested in joining ADA, the commitment is fairly serious. The dues are $150 per year, and for that amount of cash you don't get an accelerator board, extra memory, or even a free subscription to *AmigaWorld*. Instead, when you take that leap of faith, you are investing in your market.

But dues are not the biggest burden. The ADA asks members to get involved: To help define this technology, round up innovative uses for profiles in mainstream publications, and nicely but relentlessly badger the unenlightened press until it gives the Amiga its due.

You don't have to join the ADA to help in this effort. On your own, you can write, call, or even fax publications that should, but don't, currently cover the Amiga. After all, aren't you dying to see DPaint 12?

If you would like to join the ADA, you can get an application and more information by writing:

ADA Membership Drive
c/o Jerry Wolosenko
Psygnosis
29 St. Mary's Court
Brookline, MA 02146

And to all those who have sent off letters on the Amiga's behalf, many thanks! ■



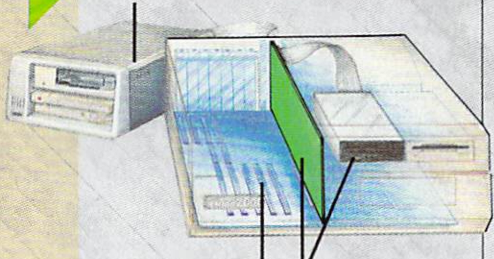
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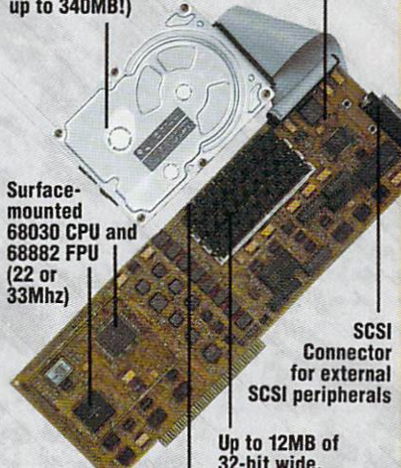
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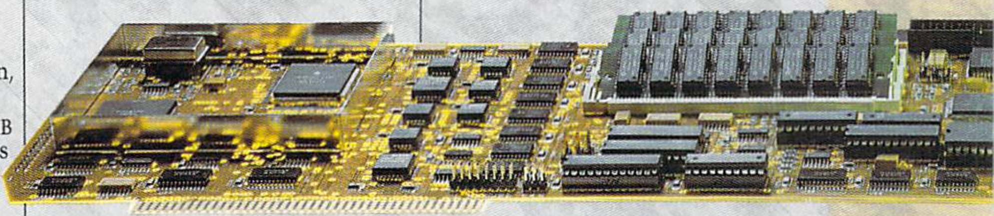
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- ✓ On-board high-performance "Series II" auto-booting SCSI controller with factory installed FAAASTROM SCSI driver and SCSI connectors for attaching both external and internal SCSI peripherals.
- ✓ Direct DMA access to the full 16MB range of 32-bit wide memory expansion by the on-board SCSI controller. Due to the A2000 bus architecture, this is ONLY possible when SCSI controller is placed directly on the 68030 CPU bus (as is the case with the A3000!). Provides ultimate SCSI hard disk performance!
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- ✓ Switch to 68000 mode by simply clicking on our new "68000 Mode" Icon, or include our special "mode switching" utility in your startup-sequence and select required mode each time system is rebooted, by holding down mouse buttons.
- ✓ Provides the ultimate expandability of your A2000 system. Plugs into the "CPU accelerator" slot, thereby leaving ALL FIVE A2000 expansion slots free for future expansion.





COMPARE:	A2000 +GVP All-in-One	Commodore A2500/30	Commodore A3000®
68030 CPU and 68882 FPU	Y	Y	Y
Maximum CPU clock speed available & shipping TODAY	33Mhz	25Mhz	25Mhz
Maximum 32-bit wide FAST memory on 68030 CPU board	16MB	4MB	16MB
Direct DMA access to more than 8MB of fast memory	Y	N	Y
DMA SCSI controller built-in on 68030 CPU board	Y	N	Y
Number of open Amiga expansion slots with 68030 CPU, SCSI controller and more than 4MB fast memory installed	5	3	4
RAM upgrades through easy-to-install 32-bit wide SIMM memory modules	Y	N	N

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OVERSCAN

News, New Products and Networks

AmiEXPO New York: Fun, No Games!

NEW YORK, N.Y.—While green-vested celebrants indulged in shenanigans along 5th Avenue in honor of St. Patrick's day, a more subdued kind of fun was going on a block away. AmiEXPO, held March 15–17 at the New York Hilton, offered plenty of fun—but no games. Although market observers have witnessed the Amiga's upwardly-mobile trend for a long time, many could not quite believe what they saw: For the first time, *not one game* was to be found among the displays at an Amiga show! The closest thing to a graphics adventure or shoot-'em-up was the announcement of Oxxi/Aegis's interactive game-programming language, *Aegis Visionary* ($99.95), with over 60 commands specific to gaming. *(RS# 562).*

What took the place of the game demos that were present at earlier Amiga shows? Video-equipment displays by such companies as JVC *(RS# 551)* and NEC *(RS# 552)*—both of which were, appropriately, near NewTek's huge *Video Toaster* exhibit *(RS# 553)*. JVC Regional Manager Jim Turner told me that he was there mainly to check out the emerging Toaster-led Amiga video market and to see how JVC products can fit in.

ASDG *(RS# 559)*, betting on a great fit, is developing support for JVC's yet-to-be-released *BR-S605U* edit deck (scheduled to retail between $2200 and $2600) via a module for the Art Department Professional image processor. NEC was nestled in with Active Circuits, which has developed an Amiga interface for NEC's *PC-VCR*, a frameaccurate unit for creating and editing presentations and applications.

Active Circuits *(RS# 554)* also demonstrated a transportable *Video Arts Teleprompting System* in addition to two new modules for its *RasterLink* (formerly ImageLink) image-conversion software. One is *TGALink*, which allows control of Truevision's Targa and ATVista frame

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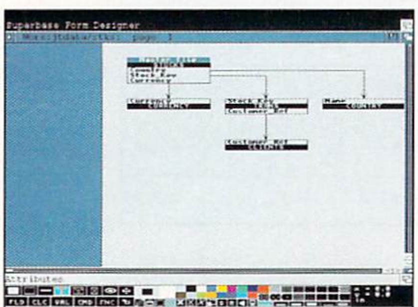


OVERHEARD

If, as Motorola claims, its 25-MHz 68040 processor is faster than Intel's 25-MHz 80486 processor, and if, as GVP claims, its 50-MHz 68030 board for the A2000 runs faster than a 25-MHz 68040, then an Amiga equipped with the 50-MHz 030 is faster not only than the fastest IBM PC or PC clone (which use the 25-MHZ 486), but also than the fastest Macintosh (which uses a 42-MHz 68030)! Zowie!

SBPro 4 Breaks Windows

The long-awaited **SuperBase Professional 4** ($495; upgrade from SBPro 3, $149) has finally stepped onto the showroom floor. This all-new Precision release has a MicroSoft Windows look. That's no accident, as SBPro 4 can now import and export .DBF (dBASE), .WKS (Lotus 1-2-3), and .XLS (MicroSoft Excel) files, read dBASE .DBF data directly, and output from existing dBASE databases *without conversion*.



SBPro 4's snappy new Forms Designer.

Precision's data-management giant has room for a whopping one billion records, and its text fields can handle 4000 characters. Other improvements include logical, real, long, and integer fields, more image formats, and a graphical labels facility. In addition, the program can retrieve and play sound samples as data, so you can incorporate voice mail or voice annotation in database applications.

The new Forms Designer—probably the flashiest change in the package—features optional rules and a snap-to-grid, WYSIWYG layout. The refurbished toolbox provides access to a wide range of object types and attributes. These include check boxes and "radio" buttons that you can attach to data fields or variables, and push buttons for executing command strings written in Superbase's Database Management Language (DML). *—JJ*

On Sale!

Concurrent with other changes in West Chester, Pennsylvania, these days, Commodore has slashed suggested retail prices of A2000- and A3000-series computers. Along with the CPUs, expansion-board prices also felt the knife.

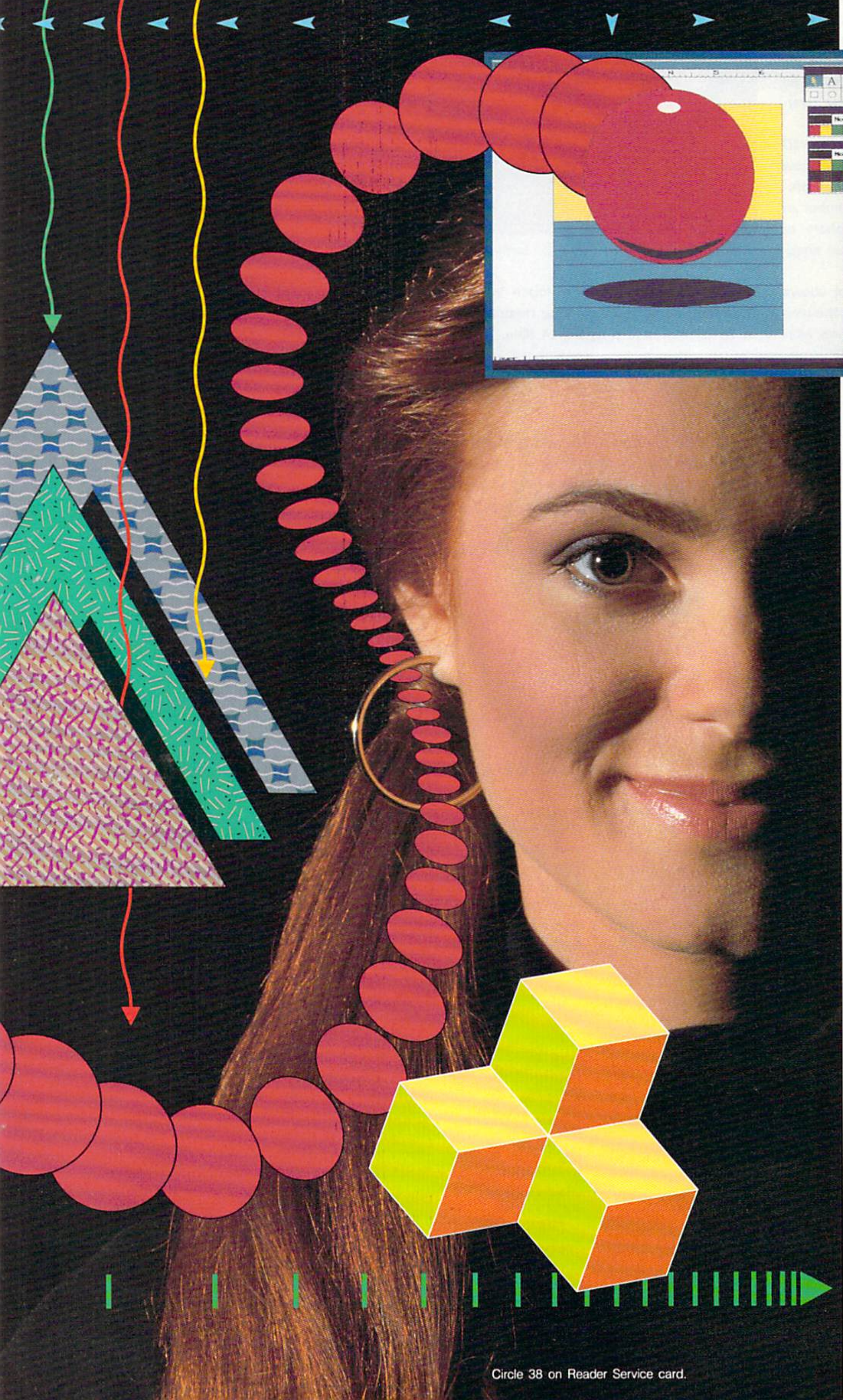
A stock *A2000* that sold for $1895 now sports a $1599 price tag. The *A2000HD* experienced the largest percentage price reduction in CPUs, with a drop from $2699 to $1999. Other markdowns include the *A2500/30* ($4699 to $3799), *A3000-16/50* ($3299 to $2999), *A3000-25/50* ($3999 to $3499), and the *A3000-25/100* ($4999 to $4699).

If you have been holding back from buying Commodore expansion boards, these reductions may change your mind: The *A2630* 68030 accelerator board that originally sold for $1999 is now $1799, and the *A2058* 8MB RAM board—populated with two megabytes—dropped from $649 to $349. The MS-DOS-compatible *A2088D* XT and *A2286* AT Bridgeboards went from $699 to $499, and $1599 to $799, respectively. Finally, the *A2300* internal genlock fell from $299 to $169, the *A2091* autoboot hard-drive controller dropped from $399 to $199, and the *A1680* 1200-baud external modem that once sold for $99 is now $59. *—JJ*

For information about the vendors of products mentioned, see "Manufacturers'/Distributors' Addresses" list on p. 88.

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- Magnified and reduced views
- Drawing up to 100 inches by 100 inches in size
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- Requires Kickstart 1.2 or later and 512K of memory
- Suggested retail price: $125.00

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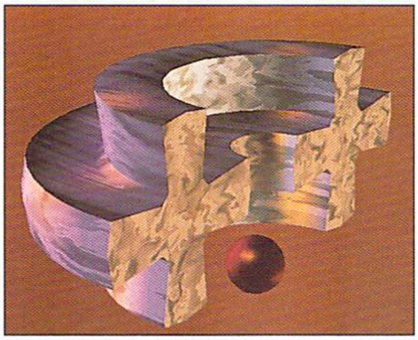
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Circle 38 on Reader Service card.

4-D VIDEO

Draw4D-Pro ($349) is its name; structured drawing and animation is its game. Like its predecessor, Draw4D, Pro is designed for use in both desktop publishing and video. Its emphasis, however, is on video. This latest Adspec Programming offering saves IFF pictures in all modes from two to 4096 colors, in regular, overscan, and severe (ouch!) overscan.

Adspec implemented features from Draw4D but added some enhancements: You can now use any IFF bitmap as a texture to wrap, project, or tile. You can also use any number of lights; assign color, intensity, and sphere of influence to lights; and assign Gouraud shading independently to any polygon.



Draw4D-Pro can save in IFF-24 format.

The program's new eyepath control allows adjustment so that you get a through-the-lens view of the environment. You can then alter that environment with the touch of a key. Draw4D-Pro lets you save your rendered views in 16,777,216 colors as IFF-24 files. *—JJ*

A LITTLE LUNACY

There are a lot of *Lemmings* (Psygnosis, $49.99) in this game and they are incredibly proficient at getting into trouble. These hapless creatures climb, parachute, block, dig, and explode their way through 120 different levels while you keep them from doing away with themselves. The problem is that there are about 100 of them to begin with and more and more keep dropping in. Each level has a time limit, so you must keep your Lemmings busy. . .before it's too late. *—JJ*



OVERHEARD

Rumor has it that management at Egghead Software, a national computer chain, is considering clearing its shelves of Apple IIGS software and replacing it with. . .you guessed it, Amiga software. When *AmigaWorld* contacted Egghead, no comment was offered on the matter.

CHOOSE YOUR BATTLEGROUND

Whether you are in the mood for one battle or an entire campaign, **Typhoon of Steel** ($59.95) has you covered. A sequel to the World War II adventure, Panzer Strike!, Typhoon of Steel lets you choose between the Pacific, Asian, and European theaters of war. Your arsenal is packed with just about every ground weapon available at the time—from tanks, tank destroyers, and artillery to trucks, mortars, and machine guns. The game provides maps and determines the types of battles and offensive/defensive missions. *—JJ*



ON-LINE SCAN

by Tim Walsh

Beginning this month, the "PD Prospector" takes his pick and shovel upstream to join the news-and-new-products camp. In On-line Scan, *Telecom Tim will not only mention his top software choices from the online networks, but also broaden his coverage. As before, he will focus on the three major sources of public-domain software—CompuServe, GEnie, and American People/Link. Don't be surprised, however, to see an occasional spotlight on BIX or some other source.*

Seemingly every network is either getting ready to jump on the **9600-baud** bandwagon or has already done so. Hats off to CompuServe for taking the plunge first and adding 9600-baud modem support to about 30 nodes nationwide. Just type GO PHONES to find out the availability of 9600-baud nodes in your area. CompuServe is also serving up joint conferences between the MIDI Forum and the Amiga Arts Forum on alternate weeks. In addition, to help you reduce online expenses, a new **File Finder Amiga** (GO AMG) lets you rapidly locate Amiga files via a keyword search.

Programmers should note that CompuServe's AmigaTech area now offers an extensive four-part **C Programming Manual** by Anders Bjerin for downloading (CMAN1.LZH through CMAN4.LZH). Another hot download is **Backtalk 1.20** (AmigaUser Library 5, BT12.LZH), a new, full-featured AmigaDOS 2.0-compatible telecommunications package.

People/Link's 9600-baud support is almost sure to be ready by the time you read this. That's not the only news that has the network a-poppin', however. According to Amiga Chairman Harv Laser, Plink is giving away one **Firecracker 24** graphics board (generously donated by developer Impulse) every month to a randomly selected patron of the Wednesday night Graphics Forum in the Amiga area. As of this writing, two Forum participants have walked away with the $1600 24-bit boards.

Between graphics forums, be sure to check out **IBEM.LZH** (AmigaZone Section 4, File #27146)—an IBM emulation program for the Amiga. To run it, you will also need the **Messy-DOS File System**, which goes by the filename of MSH.LZH (AmigaZone Section 4, File #25431).

Officials at GEnie tell me that everything but the paperwork is ready for getting 9600-baud support to the masses. Once it is in place, 70 nodes will be available for high-speed access. GEnie users may also want to peruse two new library areas: **Library 18**, entitled "Amiga Pictures: Digitized," and **Library 19**, called "Amiga Artwork: Drawn Images." The addition of these libraries allows GEnie to categorize and post more creations of Amiga artists.

One of the more intriguing and heavily downloaded files recently made available is OSNAP29.LZH (Library 4, File #10670. Written by Pierre Baillargeon, **Osnap 2.9** is far and away the best utility I have seen for lifting or "snapping" text from Shell windows and graphics from your Workbench screen. With a little practice, even Amiga novices can use Osnap to transfer virtually any item from one screen to another.

If you want to call any of the networks mentioned above, here are their voice numbers:

American People/Link: 800/524-0100

CompuServe: 800/848-8199: 614/457-8650 from Ohio

GEnie: 800/638-9636

If you have an idea...
YOU NEED SCALA

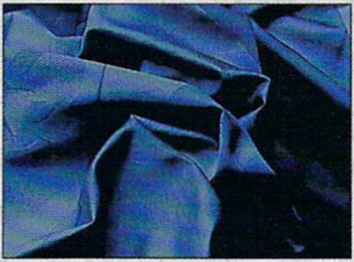
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GVP Professional SOFTWARE Series

How you present your ideas is as important as the idea itself. With a tool like SCALA your ideas will have the advantage they deserve.

SCALA provides all the tools you need for professional presentations:

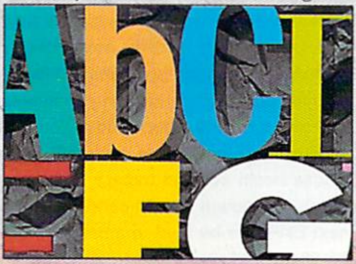
Backgrounds. Scala includes FIFTY-NINE professionally created backdrop images and textures, such as "Stone", "Marble", "Fabric", etc. THIRTY-NINE specially selected color palettes are included, allowing you to create unique and eye-catching background tapestries, adding character to your presentations. Backgrounds are stored



in IFF picture format (HAM also supported), allowing custom backgrounds to be easily created and added.

Symbols. Scala includes many useful presentation symbols such as, male, female, arrows, vehicles, etc. Symbols are stored as IFF brushes, allowing custom symbols (or other objects) to be easily created and added.

Typography. Scala includes SEVENTEEN fonts, each of which is available in many different sizes and weights.



Special effects such as tilting, underline, drop shadow, 3D and color can be applied to any individual letter, word or line. The video enthusiast will find several typefaces especially suitable for video titling purposes.

Transitions. Scala offers more than SEVENTY special effects transitions for control of transitions between pages of a presentation and how and when text, symbols or objects appear on a page. These transitions allow you to soften or accentuate changes and liven up your presentations. The speed of any transition and display times can be fully controlled.



Animiations. Scala is able to load and play back animations at any point within a presentation. Text can be added and super-imposed on an animation while it is being played back.

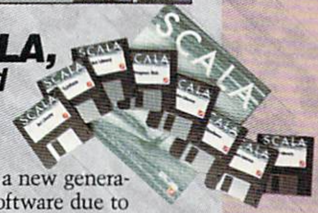
Output. Transferring output to different media is no problem with a duo like Scala and the Amiga. Using well-known Amiga tools, presentations can be genlocked, recorded on video tape, printed on polaroids, etc. Scala includes ScalePrint which can print out a complete presentation or just a cue for your speech. PostScript printers are supported.

Other Features. Page layout and attributes can be saved and re-used later to ensure a consistent appearance within a presentation. ASCII files can be loaded and formatted onto these pre-defined layouts. Any object or part of a screen can be defined as a "button", allowing "run-time" selectable flow of presentations by the simple click of a mouse button. Mouse buttons act as a "remote control", allowing forward and backward control of the presentation or overriding display times.

. . . . .



SCALA, Sophisticated yet Easy-to-use



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MANDEL TAUGHT

Science fiction, the Titanic, the Mandelbrot set, the Amiga, and good reading. . .they're all here in Arthur C. Clarke's latest novel, *The Ghost from the Grand Banks*. Clarke spent hours exploring the Mandelbrot set on his A2000, and this research served as inspiration for much of the book.

The Mandelbrot set is based on simple mathematics and extends, via millions of equations, into infinity. While I had seen Mandelbrot plots before reading the book, I had no idea how these complex and stunning images (which often look like Paisley designs) were generated. *Ghost*, however, made the process apparent and interesting—even to a math buffoon like myself.

The novel features a race to raise the Titanic, a giant octopus, an interstellar probe, and a grieving mother who searches for her lost daughter in the Mandelbrot set. I'm not saying how this stuff fits together or how the story ends, but I recommend it! *—DB*

From p. 8

buffers via CBM's Bridgeboards, and the other is *CineLink*, which supports 24-bit output to film at 4000 lines using any of several recorders. Just down the hall, Computer Creations II *(RS# 577)* showed the results of its 4000- and 8000-line resolution *slide-imaging service*.

A number of video time-base corrector (TBC) manufacturers were boasting that their units "work with the Toaster!" Among these was Digital Processing Systems *(RS# 555)*, which demonstrated a $995 *Personal TBC* that fits inside the A2000. Across the way, Showline Video *(RS# 556)* spread news of its *Spectrum* series of SVHS/composite digital frame synchronizer/TBCs, ranging in price from $1295 for a single-channel model to the $2695 dual-channel unit. I.DEN Videotronics *(RS# 557)* countered with the *IVT-7* TBC, featuring SVHS, Hi8, composite in and out, and full-frame memory.

KEY INTEREST

With the help of a genlock and video source, MicroSearch's *(RS# 558) ChromaKey* ($395) allows Amiga graphics to show through any part of a video picture that is colored blue. That's why MicroSearch reps appearing on the Amiga monitor seemed to be doing impossible stunts, while they were really only standing in front of a blue backdrop.

ASDG *(RS# 559)* announced new *drivers* for its Art Department Pro: one each for Impulse's Firecracker 24, Progressive's FrameGrabber, Black Belt Systems' HAM-E, and MacPaint on the Macintosh platform. In the ASDG booth, we also found a $1995 Epson ES-300C 600-dpi flatbed color scanner, as well as the $4500 Kodak SV6510 dye-sublimation printer so popular in screen-printing and novelty businesses. Not surprisingly, ASDG has just released drivers (at $200 and $250, respectively) for both units. ASDG also announced a driver ($200) for the $4495 Polaroid CI-3000 33-bit digital film recorder.

Although the show was heavy on graphics and video, there were a number of important audio products on display, including Beta Unlimited's *(RS# 560)* 16-bit processor for the A2000 *AudioLink*. AudioLink boasts 16 voices, sampling rates up to 48 KHz, MIDI support, and room for up to 16MB of memory.

SunRize Industries *(RS# 561)* displayed two high-resolution sampling boards for the A2000—the *AD1016* 16-bit unit, with its SMPTE time-code reader and digital I/O ports, and the *AD1012* card, which also has a SMPTE reader. Both boards are packaged with SMPTE- and ARexx-compatible software that lets you record to and edit from hard disk. SunRize also demonstrated its fast *Audition 4* sound-editing package ($99.95), which boasts eight real-time effects.

Aegis/Oxxi *(RS# 562)* announced its speedy new *Aegis SoundMaster* eight-bit stereo digitizer. At the opening of the show, the company officially released its $99.95 HAM paint-and-animation program, *SpectraColor*. The good news for owners of MicroIllusions' Photon Paint is that they can upgrade to SpectraColor for $49.95 plus shipping. Oxxi also announced its upcoming *TurboText* text editor, its *ScanMaster* 300-dpi 24-bit flatbed color scanner, and its *P-Stat* statistical-analysis package.

ONWARD, ACHING FEET!

To facilitate all the high-end applications presented at the show, developers of traditional Amiga peripherals offered all manner of controllers, accelerators, super RAM cards—and much more. Many of these companies are taking off in new directions. GVP *(RS# 563)*, for example, showed off a *color scanner* and a *24-bit graphics board* (both still in development). The company also held demonstrations of its first software offering, the impressive Norwegian presentation package, *Scala*.

IVS *(RS# 578)* had the most attention-getting (and loudest) display: The company used Digital Creations' *DCTV (RS# 564)* to display a near-video quality film clip from hard disk in real time via its *TrumpCard Professional* controller. IVS also previewed its *Grand Slam* card that combines 8MB of RAM and a parallel connector with a SCSI hard card. Digital Creations, incidentally, announced a DCTV software upgrade (scheduled for release around June) to include an "undo" command.

New in the California Access *(RS# 565)* booth was the *CA-650* CD-ROM software interface that supports both SCSI CD-ROM drives and Amiga SCSI-direct hard-disk controllers. As for discs, it supports AmigaDOS, ISO 9660, and High-Sierra standards and thus allows use of IBM and Mac ISO compact discs in addition to standard audio CDs. California Access also joined the speedy elite with the announcement of its *Boogie Board* 33-MHz 68030 accelerator. Across the show floor, CSA *(RS# 566)* showed a preliminary version of its *68040* accelerator in addition to its *Mega-Memory* 19MB RAM board for the A2000.

Amidst more hard-disk controllers and RAM cards, the developer of the much-anticipated *Colorburst* 24-bit RGB graphics card was on hand to answer questions in the MAST *(RS# 567)* booth. ICD *(RS# 568)*, meanwhile, drew some wows for its tiny *Novia 20i* internal A500 hard drive ($695.95), which incorporates the firm's *AdIDE* controller.

Spirit Technologies *(RS# 569)* alluded to a forthcoming character generator, and gave details on its modular *Studio A* genlock, which allows you to add such things as color splitters or computer control to the basic NTSC ($795) or PAL ($925) unit. Roctec *(RS# 570)* also displayed an external NTSC/PAL genlock—the *Rocgen*. Roctec's *Rocknight* external anti-virus device stirred interest with its track-location display and warning system.

Among the many devices featured in Supra's *(RS# 571)* massive display were two new *SupraModems*: the 2400 MNP with error-checking, and the 9600-baud unit. The new *SupraRam 500RX* is a low-profile 8MB external memory expander with a pass-through connector for the A500. Computrol *(RS# 579)* engineered its tiny 8MB device with controller option to fit under the hood of the A500 (and A1000 and A2000 as well).

FROM HERE TO THERE

One booth that generated lots of interest was that of Black Belt Systems *(RS# 572)*. Attendees who made their way inside were treated not only to glimpses of the *Click Fax* 9600-baud fax modem, but also saw demos of the *HAM-E* 24-bit imaging device and its new software. In support of HAM-E, HoloSoft Technologies *(RS# 573)* introduced its *HAM-E Workshop* software.

A handful of European companies exhibited at the show, including Memory Expansion Systems *(RS# 574)*, with its 8MB *Cortex* external RAM expander for the A500 and A1000. Activa International *(RS# 575)* demonstrated its *CAPS XL* (Computer Aided Presentation System) multimedia software, which allows multiple users working on different platforms to set up presentations for cable television and in-house video systems. Both companies actively sought US distribution.

This show was pretty sophisticated. Any professional or aspiring artists or videographers who felt confused by the array of offerings were welcomed by the Amiga Video-Graphics Guild *(RS# 576)*, a nationwide nonprofit organization whose booth seemed forever busy. Those who didn't get enough should consider attending the next EXPO, to be held in Orlando, Florida, July 26–28. For details, call 914/741-6500. *—BG*

Overscan is compiled by Barbara Gefvert, Janine Jackson, and Tim Walsh. Send your news, new products, and network information to Overscan, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458. ■

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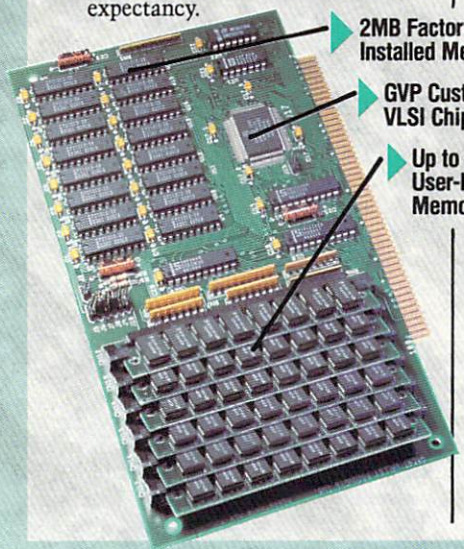
Choose GVP's Series II RAM Expansion Board, SCSI Hard Drive Controller or SCSI+RAM Hard Disk Card. Realize the potential of configuring your perfect solution without any need for compromise!

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SII A2000-RAM8/2: **The smallest and most compact 8MB RAM expansion board for the A2000!**

Features:

✓ 2MB of factory-installed RAM, expandable to 8MB.
✓ All memory fully Auto-Configured.
✓ Also supports 6MB configuration for maximum memory utilization for Commodore's A2088/2286 "bridgeboard" users.
✓ Uses easy-to-install, industry standard, SIMM memory modules. No more bent pins or incorrectly inserted DRAM chips!
✓ GVP's state-of-the-art VLSI technology has reduced an 8MB RAM expansion board to a "half-card"! This translates into a lower parts count and also means the highest possible reliability and life expectancy.

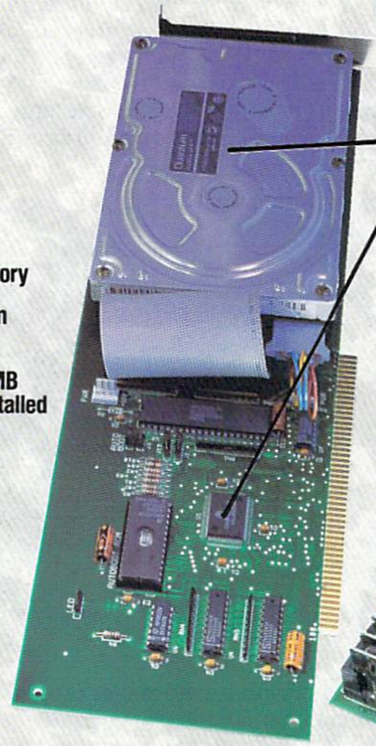


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Features:

✓ Incredible SCSI hard disk performance achieved through GVP's innovative new custom chip design.
✓ Supports virtually any SCSI device including: CD ROMs, tape drives, Bernoulli drives, removable hard drives . . .
✓ Fully implements Commodore's Rigid Disk Block (RDB) standard as well as the new DIRECT SCSI interface standard.
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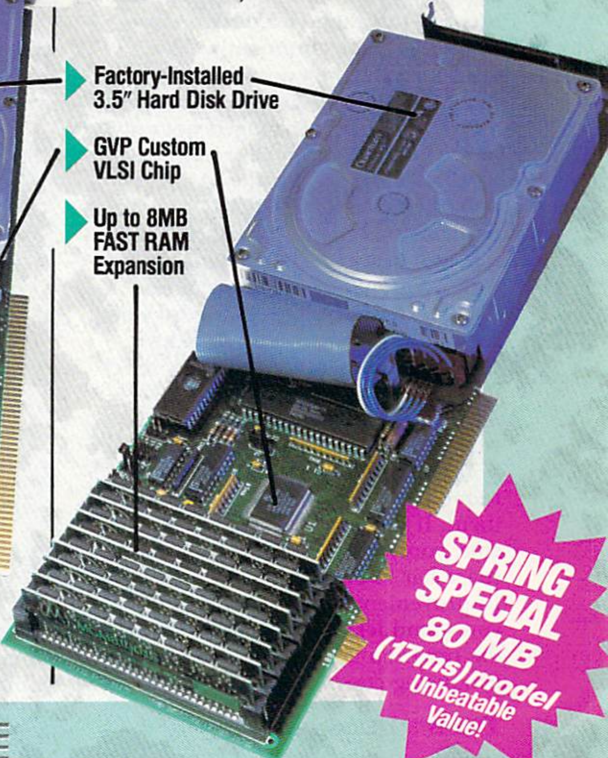


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Features:

✓ GVP's new custom chip design provides DMA performance and unique direct dual port memory access to FAST RAM, eliminating typical DMA side effects under heavy graphics load.
✓ Easy-to-install SIMM memory modules allow flexible memory configurations for Zero through 8MB. Supports 6MB FAST RAM configuration for BridgeBoard users.
✓ Supports virtually any SCSI device.
✓ Allows direct AUTOBOOT from Fast File System Partition.
✓ Simplest and easiest SCSI installation in the industry.



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Dealers Circle 265 on Reader Service card.

Consumers Circle 36 on Reader Service card.

Professional Page 2.0

The features, they are a-changin'.

By Irene C. Kobelski

IT'S BEEN A few years since ***Gold Disk*** introduced Professional Page to Amiga desktop publishers, and the program has changed almost as much as hairstyles since the 1960s. Back in the old days, document output was limited. Then came version 1.3, with its Compugraphic fonts and full support for dot-matrix printers. Professional Page 2.0 ($395; $75 for upgrade) is chock-full of new features, making Gold Disk's ongoing commitment to this high-end desktop publishing package abundantly clear.

To appease the ever-growing demands of state-of-the-art desktop publishers, Gold Disk managed not only to pack the program with new features, but also to give the basic functions a new look. The newly implemented Menu Extended Select makes it fast and easy to experiment with different combinations of text attributes. Rather than waiting for one menu command to execute before choosing another, you can now select multiple menu items by simply holding down the right mouse button while making selections with the left.

You can also activate names in list requesters by double-clicking on them. If you prefer keyboard shortcuts, you will appreciate using the space bar to execute a screen refresh. Improvements like these mean that you spend less time thinking about the program and more of your time producing copy.

Today's Design

Heading up the list of added features is the long-awaited ability to rotate text and graphics. You can rotate any box to any angle by typing in numeric values or using the mouse. This feature gives the program a serious boost, eliminating the need to manually paste up copy requiring special text or graphics angles.

Two new page-display modes make checking a multipage layout a snap. You can now view facing pages of a document or see up to six pages at once in thumbnail representations. You can also view single pages at any of five available screen magnifications, ranging from 25 to 200 percent. Whenever you choose a magnification level too low to see text properly—as is the case with the special display modes—text will appear greeked (as patterns rather than characters). You can, however, change the threshold at which greeking occurs by selecting the minimum and maximum sizes for greeked text.

> ***YOUR TURN!***
>
> Pro Page 2.0 has the potential to once again set industry standards in Amiga desktop publishing. However, unstable printing at 300dpi resolution and poor response from Gold Disk technical services make 2.0 an unacceptable program for producing "professional" documents on a laser printer. Talk to me when the program works as it should.
>
> ***Jim Twining***
> *Nashua, NH*

The program now makes provisions for automatically inserting dates within a document. Likewise, you can add page numbers with a simple keystroke. Format options for both of these features appear on the Preferences menu.

Pro Page 2.0 supports color dithering, which means that it can display over 1000 colors on screen simultaneously. Via the Color Dither Mode menu, you can choose smooth, noninterlace or flicker-free dither.

Whether you are working with color or black-and-white graphics, the program is very flexible. You can import 24-bit IFF color pictures, bitmap graphics (in IFF format), HAM pictures, Aegis Draw and Aegis Draw Plus CAD structured drawings, Professional Draw clips, and Encapsulated PostScript Format (EPSF) graphics. Pro Page 2.0 also comes with tools for creating your own structured drawings.

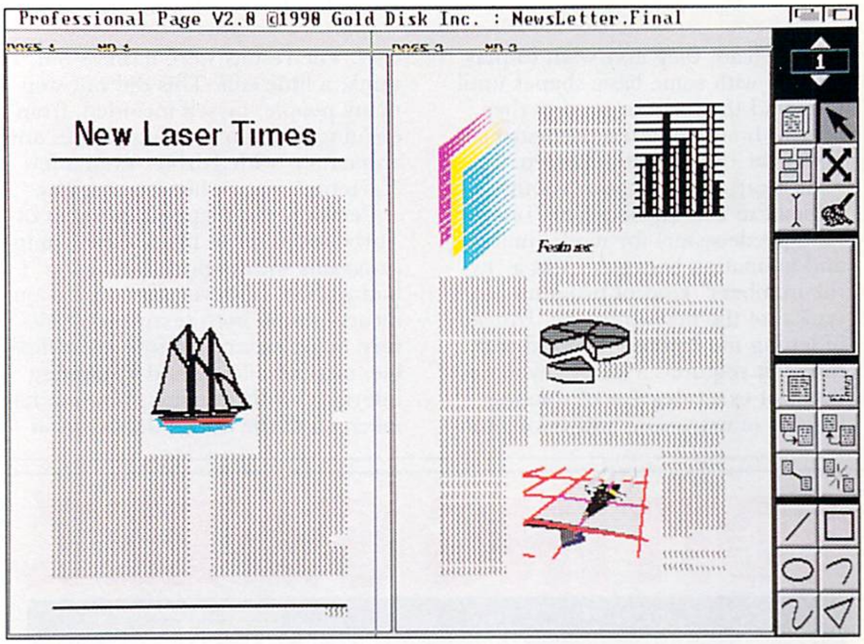
With the addition of the Pantone Matching System, you can output color separations or print to a color PostScript printer or slide imager. The Pantone system assures consistency in over 700 industry-standardized colors.

When actually preparing your document, it is often necessary to use several different combinations of typographical attributes. A typical magazine page may include headlines, subheads, quote boxes, and body copy, each requiring a different size font or particular line spacing.

To simplify an otherwise tedious procedure, Pro Page 2.0 lets you create Style Tags. Let's say that you always set your body copy in 12-point Times with a leading of two points, flush justification, and a tracking of 2. By defining and saving a Style Tag, you can invoke these attributes quickly, without having to select them manually each time. Since each Style Tag is saved with a specific name, it is possible to use multiple tags within a document. For viewing and printing purposes, you can assign different colors to the text affected by each tag.

Paragraph Tags let you define box margins, paragraph spacing, indents, tabs, and interword/character spacing

For information about the vendors of products reviewed, see "Manufacturers'/Distributors' Addresses" list on p. 88.



Greeked text makes for quicker layout with Pro Page 2.0.

(with flush-justified text only). For complete flexibility, Paragraph Tags can be linked to Style Tags or used independently. Best of all, these tags can be modified or deleted as you see fit.

Two Editors for the Price of One

Pro Page's integrated, on-screen text editor has always been useful for making quick changes or corrections, composing short blurbs, or writing headlines. For longer documents, you were better off booting up a separate word processor and importing the results. That was yesterday. Today, the program's new built-in word processor is at your disposal.

Unlike the on-screen text editor, the Article Editor is meant to handle bigger jobs. To compose a long document from scratch, you simply run the Article Editor from your Workbench disk. You can save files with or without special Pro Page formatting codes and import them later in the same way you'd handle documents from other word processors. You invoke the Article Editor from the Edit menu when Pro Page is operating.

Exploring the Article Editor turns up several features you might not expect. Among them are automatic upper- and lowercase letter conversion, extended cursor-key functions, and the ability to create macros. A quick cursor/keystroke combination lets you mark a long range of text without having to use the mouse. You can even save portions of a longer article as a separate file or insert a file on disk into your current article.

The Find/Replace command lets you locate specific words or phrases within your document. You can conduct a search from beginning to end, in addition to forward or backward from the current cursor position. You can search for upper/lowercase matches or perform wildcard and style-code searches. Finally, when multiple substitutions make using the Find/Replace operation impractical, Translation Tables (e.g. "PP" = "Professional Page") can be used to speed things up.

Invoking the Analyze feature brings up a screen displaying the word count of your document, the total number of characters, sentences and paragraphs, a word-length frequency histogram, and a readability index (the average number of words per sentence and the reading level of the text). This is a highly unusual—but welcome—feature.

The Article Editor includes a 90,000-word spelling checker, TransSpell, which you must load into memory. You must therefore have more than 2MB of RAM in order to use it while running Pro Page. Like the Article Editor itself, TransSpell is a stand-alone program.

Good Copy?

Professional Page 2.0 is a solid, reliable package. Those planning to use it in a professional capacity are strongly advised to invest in a hard drive and at least 2MB of memory. Though it will function on a 1MB Amiga, this necessarily sacrifices some of its conveniences. For example, you cannot load the hyphenation dictionary—nor the TransSpell module—while Pro Page is running. You may also get low-memory warnings, particularly when working with multiple bitmap graphics. But Pro Page is still worth the investment, even though its memory is limited.

It goes without saying that using a PostScript printer or Linotron with Pro Page will yield the best finished copy, but even a 9-pin dot-matrix printer can produce impressive results when using Compugraphic fonts.

The program manual is well documented and easy to follow, even for first-time users. To get you started, a tutorial video is packaged with the software. Unfortunately, it is not available to users who are simply purchasing the upgrade. If you run into any problems while operating the program, you'll find the technical-support personnel quite helpful.

Imagine

The program that asks the question: What if?

By Kelly Day

A MULTIDIMENSIONAL program such as Imagine ($350) from ***Impulse*** offers incredible possibilities to a 3-D artist. Imagine is complex. It is also clearly a great program, and it will take years for its full value to be realized.

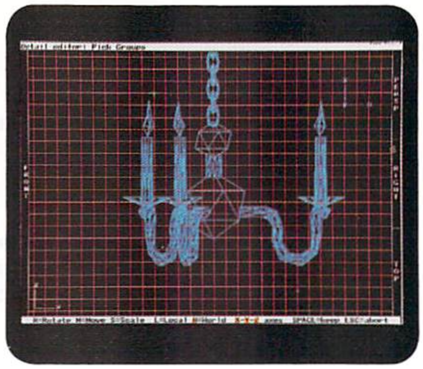
I think there are basically two schools of thought when it comes to 3-D modeling, and it is difficult for one program to encompass both. The first type of designer builds models and animates from a designed set of plans. For instance, industrial designers or architects might want to show their clients precisely what a product will look like and exactly how it will operate in near-actual situations.

On the other hand, cartoon artists/animators quite often may not have an exact idea of what a design will look like before starting to "sketch" it ►

out. Instead, they may want to play around with some basic shapes until they find the form or motion they like, without being too particular about the details until later on.

As a cartoon animator, I found it difficult to use Turbo Silver (Imagine's predecessor) for model building and animation because it was a "by-the-numbers" kind of program more typical of the first approach. Instead of letting me "mouse" around with forms, it required a lot of keyboard input of exact degrees of rotation, lengths of extrusion, and color numbers. The results were flawless but, I think, a little stiff. This did not stop many people, myself included, from creating some interesting images and animations with Turbo—even a few "cartoony" ones—but it was tricky.

Certainly the mapping features of Turbo set it above many other Amiga programs with regard to imaging. I had wished, however, for a program incorporating both texture and picture mapping and a more artist-flexible, model-building and visualizing interface. With Imagine, Impulse has taken all of the things that were so



An object in the Detail editor awaits point selection.

good about Turbo and put them into a program that takes many steps in my direction. In addition, Impulse added some very powerful features that were never at my Amiga fingertips before.

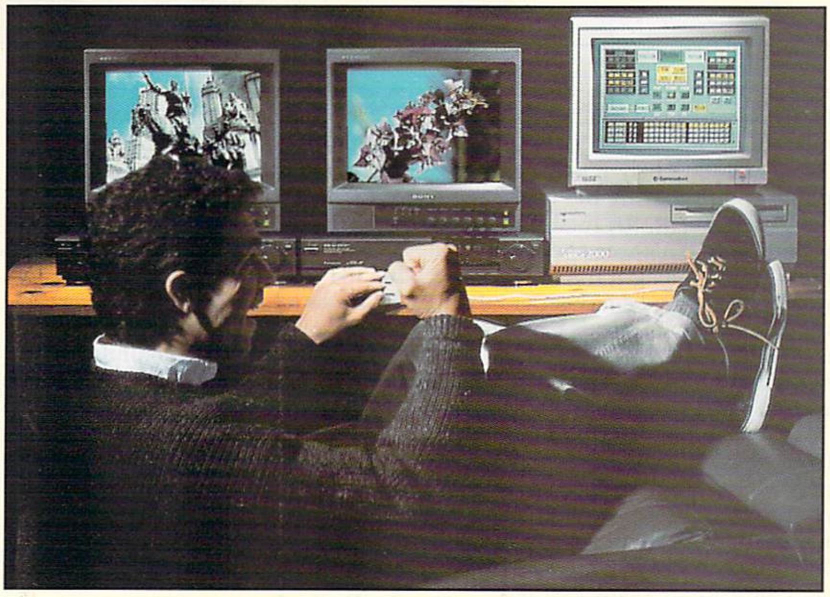
In a nutshell, Imagine is a six-editor, modular program. The Project editor lets you name and define your 3-D enterprise (picture or animation), including such items as the number of frames, resolution of test traces, and so forth. With the powerful Forms editor, you can create wonderfully organic, amorphous shapes. The Detail editor allows you to select points by lasso, dragbox, and point-and-click, and it offers a wide array of tools for manipulating shapes.

When it comes to moving and shaking your images, the Cycle, Stage, and Action editors are at your fingertips. With the Cycle editor, you can pull out stick-figure representations of objects and their positions, set key frames, and then assign the actual objects to the stick segments—all contributing to easier, more realistic character motion. The Stage editor is where you put all your elements together for animation, while the Action editor lets you define the relationships between objects and plot their movements, as well as morph those objects and their attributes in almost any way imaginable.

The Best of the Bunch

Imagine includes so many great new features that I hardly know where to start, nor can I list them all, so I'll just point out the best. My favorite new tool by far is the Magnetism mode found within the Detail editor. It allows you to create "organic" shapes by pulling a wireframe around an object as if it were some kind of flexible chicken wire. By setting its parameters, you can adjust exactly how your magnet will influence a model. ►

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System Requirements: Amiga™ with 1 megabyte RAM, and either a hard drive or 2 floppy drives.

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Circle 3 on Reader Service card.

For instance, you can adjust whether it will pull out a sharp ridge or a dull bulge, and then set how much of your model's area will be affected. For the first time, I feel I am actually "modeling" an object in 3-D as if it were wet clay, as opposed to chipping away at it like a piece of granite. This feature alone is worth the package.

Each editor in Imagine has a "fourth view" in hidden-line perspective that you can rotate independently of your normal work area, or "tri-view," so you can see odd angles when sculpting a form. There are also many helpful shortcuts that facilitate the process of getting your ideas on screen. For example, if you are working on an animated scene, Imagine allows you to preview small sections of your animation. This saves time because you don't have to sit through an entire preview rendering when you are fine-tuning one small portion (pretty smart!).

With the Forms editor, you can create all kinds of "organic" shapes by altering the profiles of a generic sphere. If you wish, you can do things like pull the walls of your object out to impossibly thin dimensions and then warp them in and out in a sort of sine wave pattern.

In the Detail editor, the Slice function lets you punch holes in your model as if you were using a 3-D cookie cutter. In general, Detail gives you more control over image size, depth, color, texture and other attributes than you can. . .well, imagine! Moving from object composition to animation, the equally powerful Cycle editor allows you to animate very complicated objects by manipulating much simpler stick figures made of little squashable diamond shapes. In the rendering and animation areas, Imagine simply can't be beat.



YOUR TURN!

Imagine is very powerful. It really is a great program and easy to use. The manual, however, is very poor. I am used to Sculpt, with its in-depth manual; there is just not enough tutorial with Imagine. You have to try it yourself and learn as you go.

Pierre Tavernier
Rock Hill, South Carolina

CHANGING TRAINS

Unlike Sculpt-Animate 4D, Imagine is mainly an object-oriented modeler. That is, the emphasis is on first deciding what you want to build and then figuring out how to build it from smaller, basic objects. This method works fine when you are building a model of something you can see. When creating something entirely new, however, you start by "sketching" the larger elements, such as the main portions of a figure and the size and mass relationships of its parts. Next, you break those larger elements down (in 3-D) and extrude them, scaling and reproportioning them as you go, sticking and unsticking pieces together. This method of adding a dab here and breaking off a hunk there can be done in Imagine, but it feels as though you were going against its grain. For instance, suppose you want to build some weird alien hand. If you forge ahead to make the whole hand one object, the only way to break it down for animation is to copy it over and over, each time deleting pieces until you're left with one

Continued on p. 76.

HITACHI



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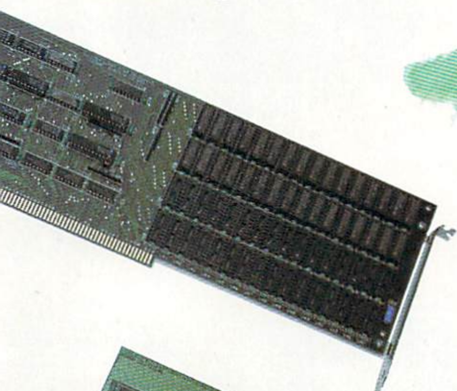
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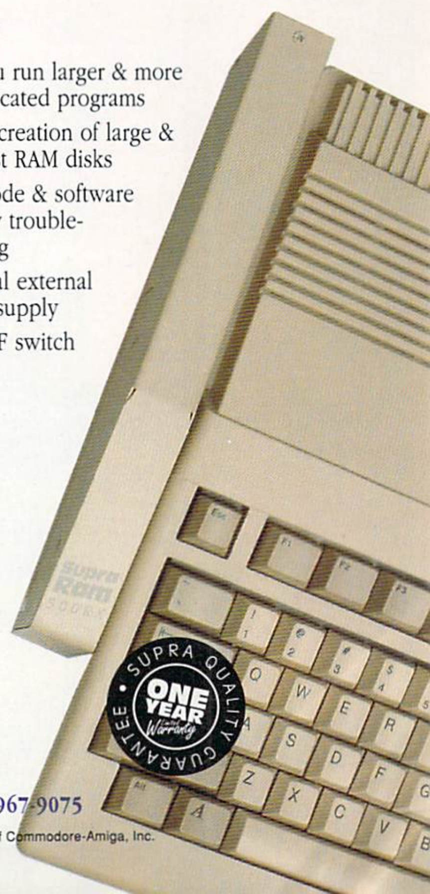
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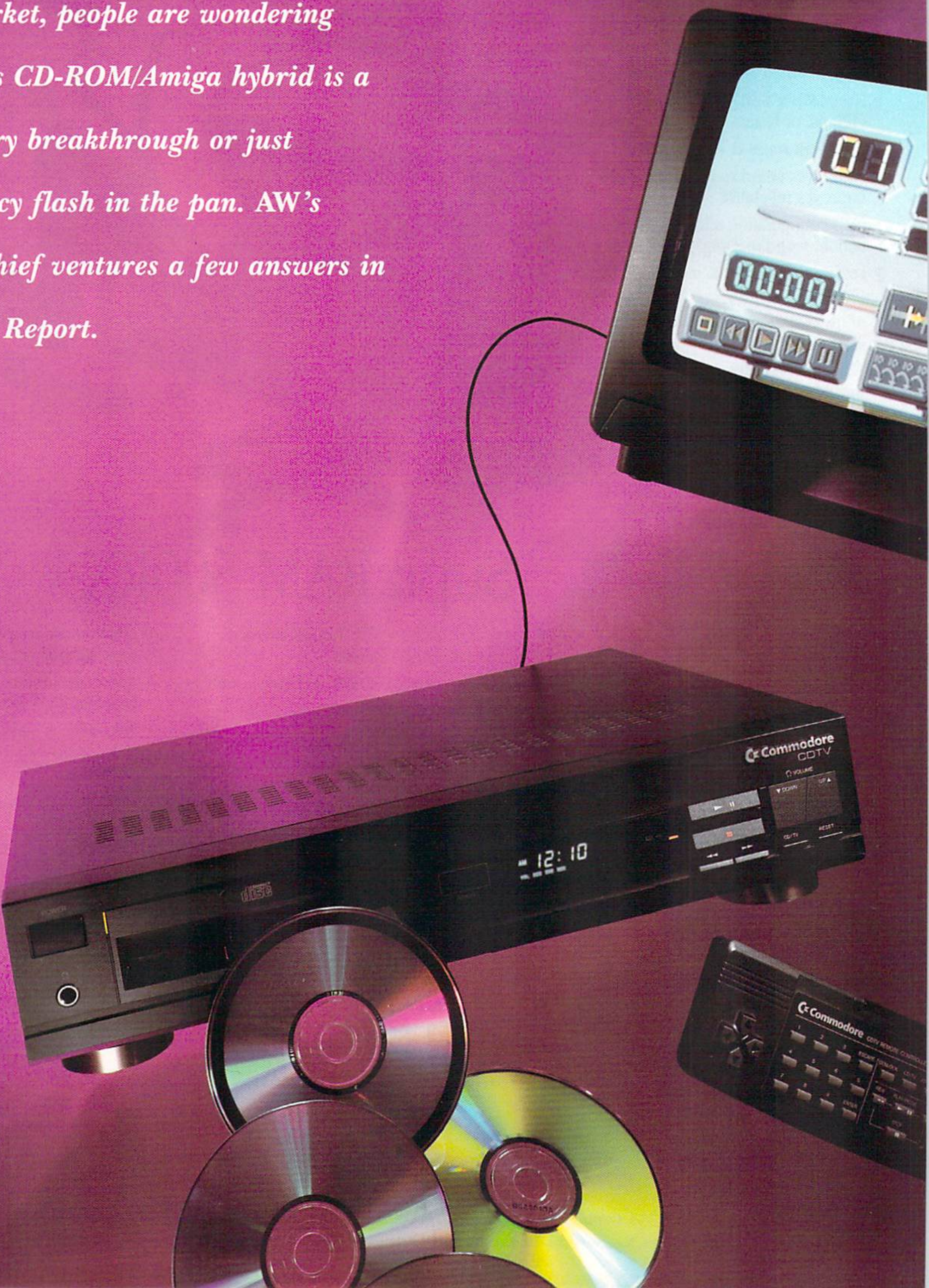
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As Commodore's long-awaited interactive multimedia system for the home finally hits the market, people are wondering whether this CD-ROM/Amiga hybrid is a revolutionary breakthrough or just another fancy flash in the pan. AW's Editor in Chief ventures a few answers in this Special Report.



CDTV

BIRTH OF A NOTION?

By Doug Barney

Like D.W. Griffith's seminal film 75 years ago, Commodore's CDTV could represent a similar pioneering effort in a different medium. The interactive CD-ROM system, which marries CD-ROM and Amiga technologies, just might be the ticket that raises "multimedia" from hyped-up buzzword to living-room byword.

It's taken the wizards from West Chester a while to deliver the goods: *AmigaWorld* first brought you the news about CDTV in an investigative story that graced the cover of our July 1990 issue (see "Million Dollar Baby," p. 18). Commodore called it "The Baby" then, and while 11 months is a tad longer than the normal human gestation period, the company finally began rolling out CDTV in selected markets just as we were getting this issue ready for press.

Throughout the long delivery, Commodore has been diligently refining (read "finishing") the product. Also during that time, the company lined up scads of developers (see the "Buyers Guide to CDTV Titles" accompanying this article), nailed down distribution through retailers such as Montgomery Ward and Macy's, set a suggested list price of just under a grand ($999), and, finally, polished off the product. ►

PHOTOGRAPHED BY ED JUDICE



In order to have enough time to do a full-scale, hands-on review of CDTV for this issue, however, we were forced to use a very late-model prototype and an array of equally late beta software. In addition, we received one final operating-system upgrade in the middle of writing the article!

Hybrid Vigor: Highlights of CDTV

While some things have been altered, the basic hardware behind CDTV (Commodore Dynamic Total Vision) has not changed much from what we described 11 months ago. It is still a CD-ROM player tied into a 7.16 MHz 68000-based A500. The front panel includes mainly standard CD functions (Play, Pause, Head-Phone Jack, and so forth), plus a port for the Personal RAM card (see the "CDTV Options and Accessories" sidebar). Meanwhile, the back is jammed full of ports and plugs that computer users around the world generally love to see. There are parallel and serial ports, a floppy drive, keyboard and remote mouse/joystick ports, audio out, MIDI in and out, and an array of video outputs, including RF, Composite color video, Digital and Analog RGB, and S-Video (supporting PAL and NTSC). Also on the back are a DMA expansion slot and a video slot.

The system still comes with one megabyte of RAM, which limits the amount and quality of either animation or video, but keeps the price down to a reasonable level.

Although CDTV uses the tried-and-true A500 as its base technology, it is shockingly and purposely unlike any computer ever made. As you can see from the photo on the opening page, the physical device is decidedly uncomputer-like. A key difference is the 28-button hand-held remote device that handles all control functions. Unfortunately, its four-button cursor does not allow for the fine control possible with a mouse, making intricate menus and drawing out of the question. (Commodore will, however, offer a remote-control mouse later this year—see the "Options" sidebar.)

In general, the remote device offers fewer choices, and it will take a bit more time to achieve the desired result. But those intimidated by the complexity of a VCR, or scared stiff of computers, will appreciate the total shielding of all computer elements.

With the remote, users also gain tremendous freedom. There is simply no cord binding you to your computer. When you sit back in that easy chair, soda in hand, and start moving through screens, the advantages really sink in.

Another advantage of CDTV is its ability to play the rare (there are only about 30) but interesting CD+G (Compact Disc Plus Graphics) discs. These CDs include graphics that are played on a television. We're not exactly talking rock video here, but the images do add flavor to the musical content. Currently available titles include Fleetwood Mac's "Behind The Mask," Little Feat's "Hoy, Hoy" and "Representing. . .," "Jimi Hendrix Experience: Smash Hits," Bonnie Raitt's "Green Light," and Talking Heads' "Naked"—with a little classical, folk, and jazz thrown in as well.

For playing standard CDs, Commodore has added a slick graphical interface. You control the CD by poking buttons on the remote device. Then you see an animated representation of the portion of the CD that is played. In addition to programming the sequence of cuts or skipping through tracks, the interface gives you the ability to preview the first ten seconds of each song, as well as to control the CD+G and CD+MIDI function. By the way, the MIDI func-

Continued on p. 28.

CDTV Options and Accessories

TO MAKE CDTV more useful and more versatile, Commodore plans to introduce a number of special accessories throughout 1991. Perhaps of most interest to current Amiga owners will be the one scheduled to appear first, which is also the first item on the following list:

A690 CD-ROM Drive — Already exhibited at CES and carrying a $699 suggested retail price tag, the A690 should be shipping not long after you read this. It attaches to the A500's expansion bus and plays any compact disc, including CDTV. Commodore is also supposedly developing interfaces for the A2000 and A3000 so that these systems can run the drive sometime in the future.

Video Genlock Card — Allows you to combine CDTV visuals with video from a video camera, videotape, or live television. You can switch among video-only, CDTV-plus-video, and CDTV-only genlock modes. There is already a genlock button on the standard CDTV remote control.

Remote-Control Mouse — A two-button model that provides real mouse control over the CDTV player without wires or cables. Will allow the kind of control not presently available when operating CDTV painting and drawing titles.

Trackball Controller — Increases speed and control for fast interactive multimedia titles. Has dual joystick connectors and operates by either an infrared remote control or a plug-in cable that is provided.

Personal Memory Card — Provides an easy way to save information for later use for such CDTV titles as games (save a position), paint programs (save an image), and reference discs (save a text excerpt). In 64K and 256K versions.

Game Controller — An infrared transmitter "brick" with ports for wired joysticks.

Bookshelf Speakers — For better sound quality, this pair of stereo speakers comes with built-in audio amplifiers.



So What "Titles" Are on "Disc?"

RIGHT. REMEMBER, THEY don't call them programs—they're titles. And it's a "c" not a "k" on the end of dis round thing I'm holding between my fingers.

Because developers were scrambling to put the finishing touches on many of the titles in time for the CDTV roll-out, I was able to sample only a small number of applications (but quite a larger number of standard CDs—all of which played quite nicely). Besides the seven discs reviewed below, there are descriptions in the buyer's guide of nearly 25 other current titles, plus a list of over 50 additional titles announced for later in 1991.

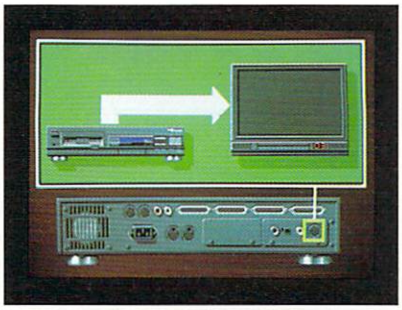
Playing CDTV titles is the opposite of using standard computer software. Most computer software waits for the user to provide data and then helps to sift, manipulate, and form the information. CD-ROM "software" provides the information, which the *user* can then sift, manipulate, or form.

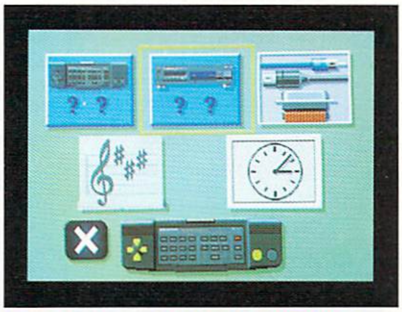
The first disc you'll play is a freebie. In fact, it's actually the CDTV documentation. Not knowing that at first, I called Commodore's Gail Wellington to ask about docs. She replied, "Look in the box for **The Welcome Disc**."

Sure enough, it tells you—through images, animation, sound, and words—what CDTV is all about and how it works. This is the perfect approach for a living-room computer, because you would probably wind up throwing out the manuals with old copies of *Sports Illustrated* and *Cosmo* the next time you cleared off the coffee table.

Next on my trial run—and one of the best of my tiny bunch—was **World Vista Atlas** ($79.95) from Applied Optical Media. Similar to PC Globe for the IBM and Mac, World Vista teaches geography in a visual, interactive manner.

Unlike PC Globe, however, which uses conventional computer-style pull-down menus, World Vista uses a friendlier, kiosk-style interface. Instead of computer-generated, undetailed maps, it offers actual scanned maps the user can navigate through. More importantly, World Vista adds the richness of sound, which helps teach about different cultures through music and language. The cultural side is topped off with photographic images of the country along with descriptions of what you are seeing. It is obvious that Applied Optical took full advantage of CD-ROM's half-gigabyte-plus (550MB) mass-storage capacity. In human terms, that means that a single disc can store up to 250,000 typewritten pages!





Even the documentation for CDTV is a CD—an interactive tutorial called *The Welcome Disc.*

Also in my personal CDTV starter kit was Xiphias' **American Heritage Illustrated Encyclopedic Dictionary** ($69.95), which was not quite as suited to the CDTV remote device as World Vista. For applications such as this, a remote keyboard (promised by Commodore sometime in 1991) would be a welcome addition.

The 3000 color illustrations, automated word pronouncer and speller, and "hot-word" reference feature, however, all make good use of the strengths of both CD-ROM and Amiga-graphics technologies. The results are fuller, richer definitions of more than 180,000 words.

Fun and Games, Too

To keep our hard-charging reporter from getting bored, Commodore sent **Airwave Adventure: The Case of the Cautious Condor** ($49.95) from Tiger Media. This adventure game was designed from the ground up for interactivity and takes excellent advantage of CDTV's sound capability and storage capacity.

You have 30 minutes to solve a murder mystery on board the maiden voyage of a 1937 luxury liner. With countless story possibilities and myriad images, however, it is a game that can be played over and over in many different variations.

For the younger set, there is Multimedia Corp.'s **A Bun for Barney** ($49.95) title (and, remember, that's "bun" not "pun"). Narrated by Tom Baker, who plays Dr. Who on the PBS show of the same name, this is a terrific animated interactive children's book. Users (ages 3–6) can choose to simply go through the story or to combine the story with games. Choosing the game style, the child can move the pointer to various parts of the screen to make bears pop up, birds flutter, and squirrels appear, or to invoke simple and fun guessing games. The imagery is first-rate, the interactivity excellent, and the sound even better.

Back on the reference side, **Dr. Wellman: Family Health Adviser** ($79.95) from Commodore's own CDTV Publishing unit, is an interactive primer on health. Although the program lacks the depth of a *Gray's Anatomy* or *Merck Manual*, it is quite easy to push-button your way to a better understanding of medical matters and to better health for you or your child. It includes information on traveling to various countries, exercise, first aid, alternative medicine, and many more health topics.

From Xiphias' **Time Table of History** series, **Science and Innovation** ($59.95) makes excellent use of the Amiga's and CDTV's image handling. One can explore economic trends through simple graphs, read about the Big Bang, reminisce about the 1977 launch of the Commodore PET, put the Babylonians in historical perspective with a timeline, or see the famous photograph of the young Chinese student who stopped a tank on its way to Tiananmen Square. Audio presentations for key events and "hot-word" interactive referencing further enhance the program's appeal. □

—DB

Buyer's Guide to CDTV Titles

The titles presented here are currently available or slated to appear by the time this guide is published. A brief list of other titles expected later on in 1991 is also included.

A list of CDTV developers with addresses and phone numbers is also contained in the guide. In addition, you may contact Commodore (see under "CDTV Publishing" in the list of CDTV developers) for product and ordering information about any of these titles.

Titles are grouped under five major headings: Arts & Leisure, Education, Entertainment, Music, and Reference.

ARTS & LEISURE

Advanced Military Systems
Dominion Software
$39.95

For the armchair warrior, the newest and most advanced military hardware is featured in over 1500 action photographs accompanied by music and narration.

Women in Motion
On-Line Entertainment
$49.95

Photography genius and motion-picture pioneer Eadweard Muybridge's Women in Motion is an encyclopedia of movement based on some of the great historic photos of the 19th century. You can examine each frame of animation, print it, or load it into a paint program.

EDUCATION

A Bun for Barney
Multimedia Corp.
$49.95

Featured in the "Titles/Disc" sidebar.

Barney Bear Goes to School
Free Spirit Software
$39.95

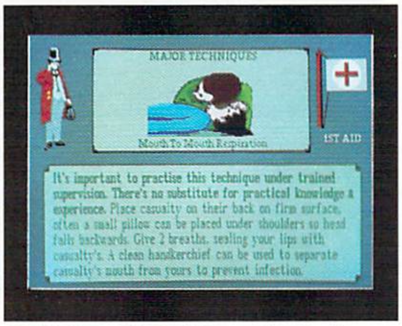
A two-part learning game that combines colorful, animated graphics and "multitrack" sound. Includes spelling and counting games, color and shape identification, and a coloring book. *Ages 2–6.*

Fun School 3
Database Educational Software
49.95

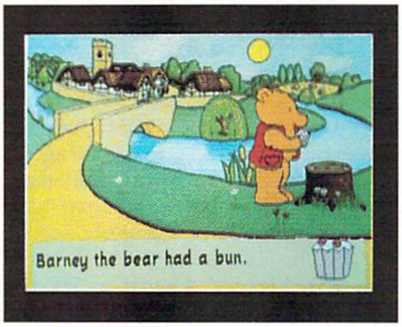
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REFERENCE

The American Heritage Illustrated Encyclopedic Dictionary
Xiphias
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Complete Works of Shakespeare
Animated Pixels
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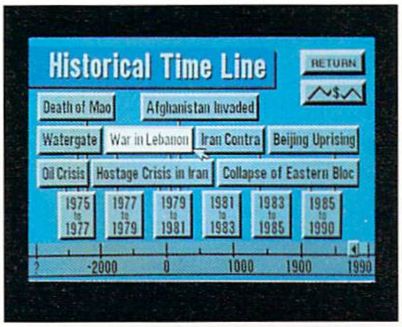
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Featured in the "Titles/Disc" sidebar.

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Arts & Leisure
Animated Coloring Book (Gold Disk)
Dinosaurs for Hire (Wright Enterprises)
Gardenfax Series (CDTV Publishing)
Guinness CDTV Disc of Records (CDTV)
Ninja High School Comix (Wright)
Our House (Context Systems)

Education
A Long Hard Day on the Ranch (Discis)
Cinderella (Discis)
Fun School: 5–7 (Database Software)
Fun School: Over 7's (Database Software)
Heather Hits Her First Home Run (Discis)
Mickey's 1 2 3's (Walt Disney)
Moving Gives Me a Stomachache (Discis)
North Polar Expedition (Virgin Mastertronic)
The Tale of Benjamin Bunny (Discis)

Entertainment
Air Traffic Controller (Logic Plus)
Angel of the City (Tiger Media)
B.A.T. (UBI Soft)
Basketball (Context Systems)
Bill and Ted's Excellent Adventure (Capstone)
Blockbusters (Domark)
CDTV Sports Football (CDTV)
Cardinal of the Kremlin (Capstone)

►

Buyer's Guide, continued

Dominion (Dominion Software)
Drakkhen (Infogrames)
Dungeon Master (FTL Games)
Falcon (Spectrum Holobyte / MirrorSoft)
Future Wars (Interplay Productions)
Herewith the Clues (Domark)
Horse Racing (Context)
Indiana Jones and the Last Crusade (CDTV)
Indoor Sports (Context)
Jack Nicklaus Golf (Accolade)
Loom (CDTV)
Many Roads to Murder (CDTV)
Murder, Anyone? (CDTV)
Murder off Miami (Domark)
Pro Tennis Tour II (UBI Soft)
Secret of Monkey Island (CDTV)
Sherlock Holmes, Consulting Detective (Icom Simulations)
Sim City (Maxis)
Spirit of Excalibur (Virgin)
Spy vs. Spy (CDTV)
Terminator (Bethesda Software)
Trivial Pursuit (Domark)
Trump Castle (Capstone)
Unreal (UBI Soft)
Wayne Gretzky Hockey (Bethesda)

Music
CDTV Disc Jockey (Sassenrath Research)
Musicolor (Virgin)

Reference
American Vista Atlas (Applied Optical Media)
Family Drug and Poison Information (NE Louisiana University)
Living Book Series (Digigraphic)
New Grolier Electronic Encyclopedia (CDTV)
Time Table of the Arts (Xiphias)

CDTV Developers

Accolade
550 S. Winchester Blvd.
San Jose, CA 95128
408/985-1700

Animated Pixels
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Osborne Rd.
Southsea, Hants.
PO5 3LB, UK
0705-733588

Applied Optical Media
18 Great Valley Pkwy.
Malvern, PA 19355
215/889-9564

Bethesda Software
15235 Shady Grove Rd., Suite 100
Rockville, MD 20850
301/926-8300

Capstone
14160 S.W. 139th Court
Miami, FL 33186

CDTV Publishing
1200 Wilson Drive
West Chester, PA 19380
215/431-9100

Context Systems
The Technology Center
333 Bayberry Rd.
Hatboro, PA 19040
215/675-5000

Database Software
Europa House
Adlington Park, Macclesfield,
Ches., SK10 4NP, UK
0625-859333

Discis Knowledge Research
45 Sheppard Ave. E., Suite 410
Toronto, Ontario
M2N 5W9 Canada
416/250-6537

Domark
Ferry House
51-57 Lacy Rd.
Putney
London SW15 1PR, UK
081-780-2222

Dominion Software & Design
3328 Oakshade Court
Fairfax, VA 22033
703/318-8270

The Edge Interactive Media
151 S. El Molina Ave., Suite 201
Pasadena, CA 91101
818/577-9375

FTL Games
6160 Lusk Blvd., Suite C-206
San Diego, CA 98121
619/453-5711

Free Spirit Software
58 Noble St.
Kutztown, PA 19530
215/683-5609

Gold Disk
5155 Spectrum Way, Unit 5
Mississauga, Ontario
L4W 5A1 Canada
416/602-4000
800/465-3375

Hypermedia Concepts
PO Box 85303
Racine, WI 53408
414/632-3766

Icom Simulations
648 S. Wheeling Rd.
Wheeling, IL 60090
708/520-4440

Infogrames
84 Rue de 1ier Mars
69628 Villeurbranne cedex
France

Interplay Productions
3710 S. Susan, #100
Santa Ana, CA 92704
714/549-9001

Jeriko
5 Boulevarde Poissoniere
75002 Paris
France

Logic Plus
18 Whitesands Grove
MGR Park
Stoke-on-Trent, Staffs., UK
0782-398840

Maxis
1042 Country Club Drive, Suite C
Moraga, CA 94556
415/376-6434

Merit Software
13635 Gamma Rd.
Dallas, TX 75244
214/385-2353

MirrorSoft
Irwin House
118 Southwark St.
London SE1 0SW, UK
071-928-1454

Multimedia Corp.
109X Regent's Park Rd.
London NW1 8UR, UK
071-722-7595

On-Line Entertainment
14 Falcon Way
Clippers Quay
London E14 9UP, UK

ReadySoft
30 Wertheim Court, Unit 2
Richmond Hill, Ontario
L4B 1B9 Canada
416/731-4175

Saddleback Graphics
3621 W. MacArthur Blvd. Suite 119
Santa Ana, CA 92628
714/540-4062

Sassenrath Research
387 N. State St., Suite 200
Ukiah, CA 95482
707/462-4878

Tiger Media
5801 E. Slauson, Suite 200
Los Angeles, CA 90040
213/721-8282

Titus Software
28ter Avenue de Versailles
93220 Gagny
France

UBI Soft
8/10 Rue de Valmy
93100 Montreuil Sous Bois
France

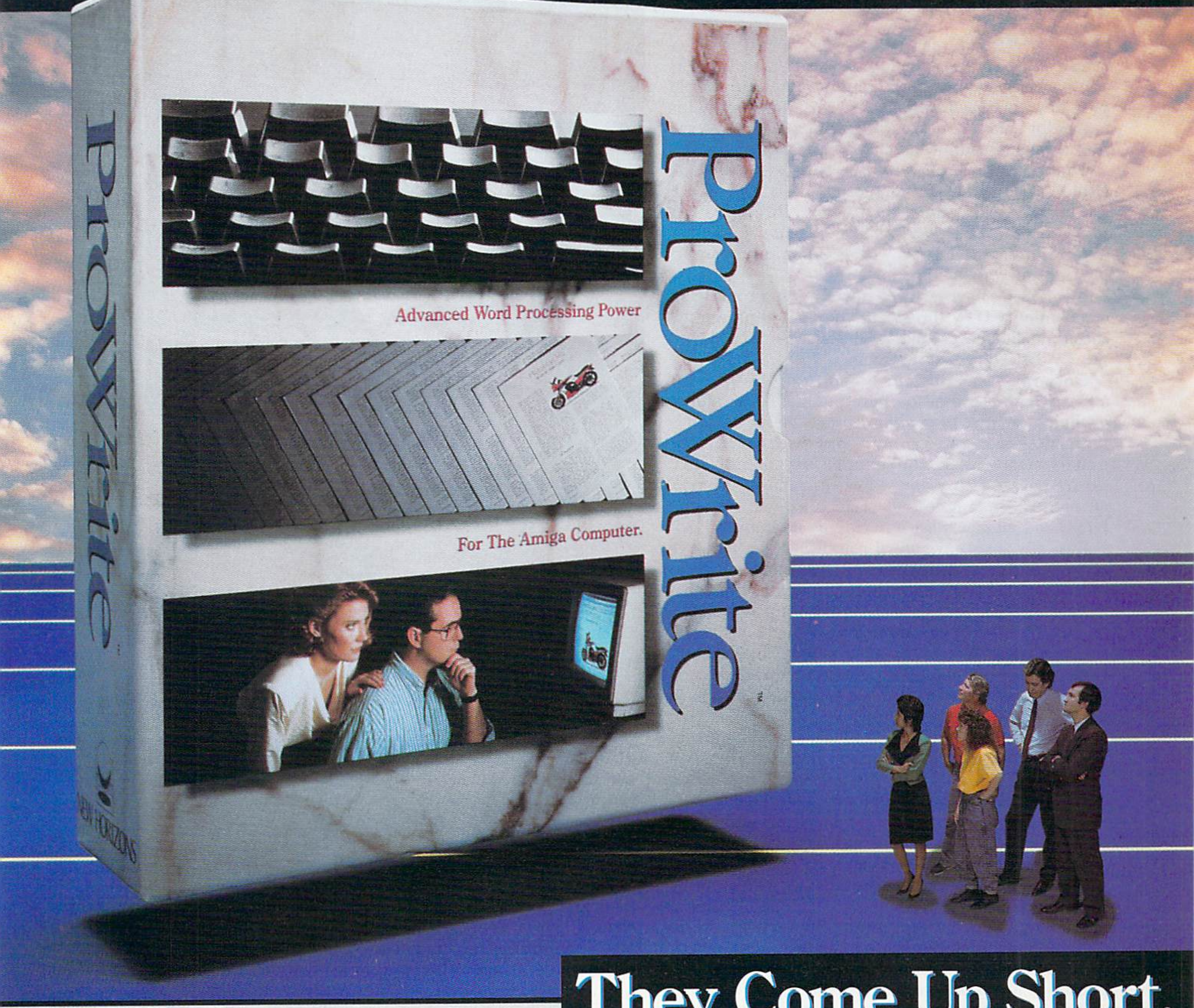
Virgin Mastertronic
18001 Cowan St., Suites A & B
Irvine, CA 92714
714/833-8710

Walt Disney Software
500 S. Buena Vista St.
Burbank, CA 91521
818/567-5360

Wright Enterprises
Hudson Rd.
Temple, NH 03084
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Xiphias
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From p. 22.
tion is a new addition to the original design, allowing MIDI devices to input to CDTV and vice-versa.

OUT OF THE BOX. . . AND INTO THE CHAIR

There are several options for hooking up CDTV. If you have an existing stereo monitor, you can simply plug in your CDTV audio cords and play away. This makes for a nice, compact desktop unit, although the sound quality cannot match a typical home stereo.

Commodore assumes that most of you will hook CDTV up to your TV set, using the supplied RF Modulator, with audio then going through your stereo system. This clearly yields the best sound quality and also puts CDTV where Commodore wants it—right in your living room!

If you don't have a stereo in your living room, you can connect CDTV directly to your TV, although the sound quality leaves a bit to be desired—at least with the TV I tried.

Once you've set up your system, you will be in for a treat when it comes to operating it. CDTV defines a whole new style of computer interface—one that is more kiosk-like than computer-oriented. Because the unit is meant to be commanded by an individual sitting on a couch using a low-res pointing device, all menus are simple and clear, all fonts are quite large, and all screens are decidedly uncluttered.

Basically, you navigate through a series of large boxes—pushing "A" to advance, select, or enter, and "B" to go back. Although there is an enter button, it is used only to save information to bookmark memory (about 2K of memory used for such small tasks as saving a place in a game) or to confirm an "A" command. There is also an escape button, but this is used primarily as a help key. In joystick mode, "A" acts as the firebutton.

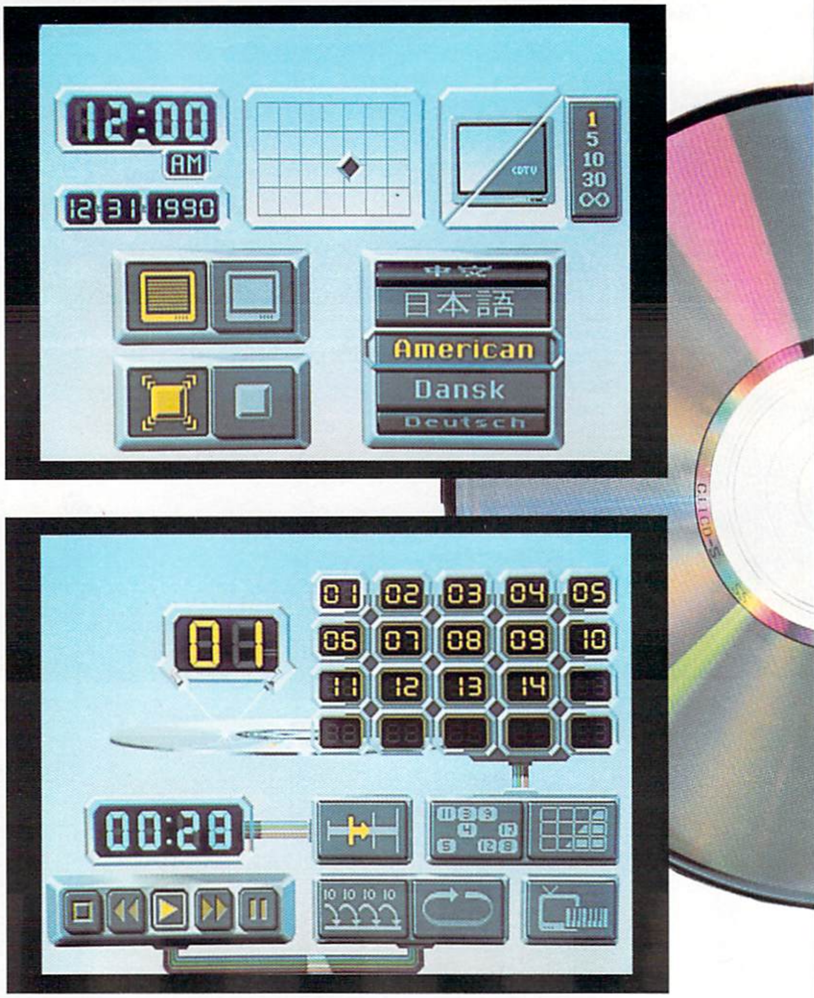
Commodore provided CDTV developers with interface guidelines stricter than any imposed on Amiga software. The goal of these guidelines is not just ease of use, but also uniformity in look and feel. One problem developers must overcome, however, is the slowness of the CD drive. Each program must inform the user when a command has been accepted and is being processed; otherwise, the impatient user will continue to pound away at the remote.

Loading and unloading programs is about as simple as it gets. Simply pop the CD in to load or out to unload. CDTV reboots at each exit, and all applications are completely autobooting.

Because CDTV is not marketed primarily as a computer, there is a wealth of new terminology to describe common computer functions. For instance, peripherals are "accessories," boot becomes "start," cursor becomes "pointer," icon becomes "symbol," RAM becomes "memory," and software—as you'll be reminded many times in the sidebars and buyer's guide—becomes "title." Some terms, such as guru and directory, have been dispensed with altogether.

REPORT CARD

In terms of overall performance, CDTV garners mixed, but generally excellent, grades. Like any Amiga, the graphics, screen changes, and cursor movements have a nice snap. For those accustomed to speedy hard drives, however, the access time from the CD-ROM will seem a trifle slow. This is a problem with all CD-ROM devices, not just CDTV. As developers learn a few more preloading and memory-saving tricks, their applications should become more lively.

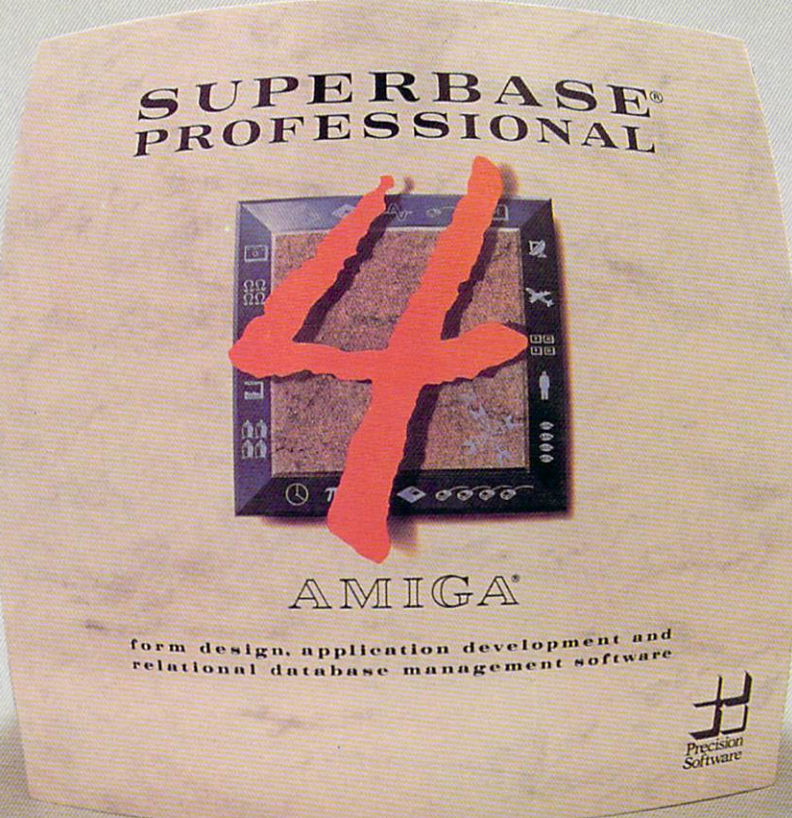


"Interactive" is the byword of CDTV—with users choosing options from simple, graphical menus and control panels by using the remote controller.

For now at least, many people may find themselves pushing the buttons again and again to make sure they have properly issued their commands, which can sometimes take a few poundings. Applications such as Applied Optical Media's World Vista Atlas solves this input problem by issuing a solid beep when the key press has succeeded.

On the other hand, the combination of simple, bold graphics, near-photographic images, hand-held control, and CD-quality sound is quite remarkable—regardless of speed.

CDTV could represent a new, exciting, and very different era for many Amiga users. Hard-core users may not like the sluggishness of the CD drive, the limited RAM, or the remote-control device. Others, though, will welcome the excellent sound and the innovative style of application. But anyone contemplating shelling out a grand for such a system should get some demos first. Since the proof will be in the applications, let them help you decide. In the meantime, check out the "Titles/Disc" sidebar that highlights some of the applications available, plus the buyer's guide for a complete list of all CDTV titles to date. ■



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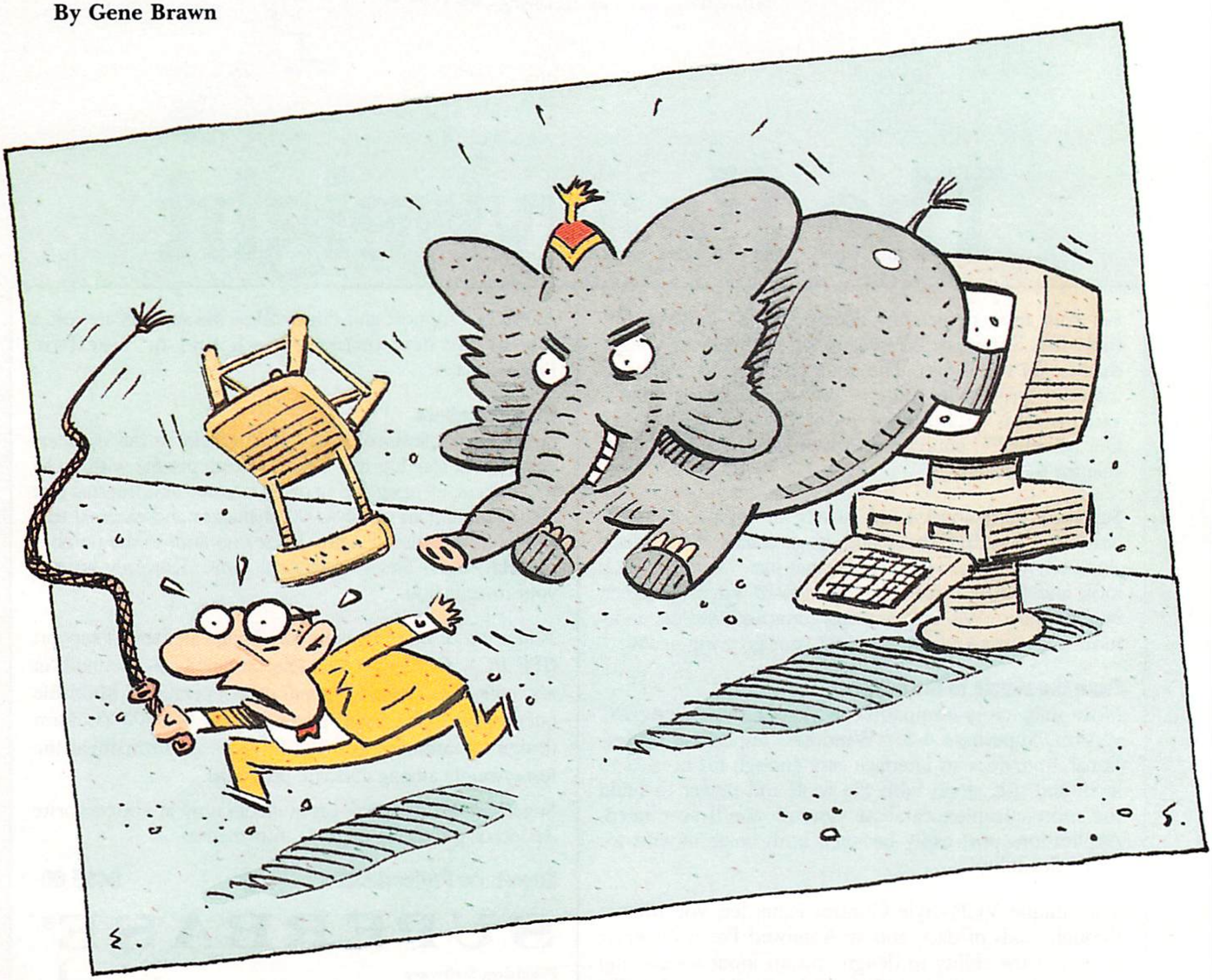
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ANIM

ANIM files can quickly become ANIMal files—huge raging beasts that consume vast

Here are 15 handy tips designed to "squeeze" your animation

By Gene Brawn



ILLUSTRATED BY ELWOOD SMITH

TAMERS

quantities of valuable system memory, storage space, and loading time.

files and tame them into more manageable proportions.

On the pitcher's mound, Charlie Brown leans in for the sign from Linus behind the plate. Shakes him off twice. Goes into his windup and delivers a slow, hanging curve. The opposing batter uncorks a powerful swing and hits a towering grand slam over Snoopy's head in left. A "4" drops into place in the first-inning slot on the scoreboard and the Peanuts gang is already behind. Back to the dugout, where, mouth opening wide, Lucy cries, "Oh, Charlie Brown, can't you do *anything* right!"

A simple, familiar animation sequence, but animator Schulz may have used up an entire drawing pad or two, from his stock of thousands, to do all the frames in the sequence. While animation on the Amiga can make your job simpler, you still face a monumental resource problem: Even simple animation files eat up huge amounts of disk-storage space, system RAM, and time spent in drawing individual frames.

If you have unlimited means, you can just whip out your checkbook and buy megabytes of memory and mass storage. The rest of us, however, must learn to do more with less. The following hints and techniques, ranging from creating the smallest possible ANIM files to organizing your disks intelligently, will help you to get the most from your Amiga animations. I've organized my fifteen efficiency tips with the first ten directed more towards novices and the last five geared for more seasoned users.

Most of the performance problems encountered by Amiga animators are attributable to the ANIM format, which even though it represents a file-compression scheme, still often results in the production of tremendously large, unwieldy files. (See the "Getting Started" sidebar for more particulars on the ANIM format.) Accordingly, many of my tips describe ways to reduce the size of your ANIMs; a smaller file occupies less disk real estate, loads faster, and uses less of your precious RAM. While some of the more basic techniques may seem obvious or too simple to include, they bear repeating, if only because you will use them so often. Also, for the less experienced animator to fully understand these tricks, it is ►

Getting Started

Background Basics

IF YOU ARE a bit fuzzy on the subject of the Amiga's graphic display, here's a quick crash course. Behind your Amiga's display are up to six "hidden" screens, called bitplanes, each duplicating the visible screen in width and height. When you decide on the number of colors for your palette, you are actually telling the software to create a display with one to five bitplanes. (In HAM—Hold-and-Modify—and Extra_Halfbrite modes, six-bitplane palettes are created with the help of some sophisticated hardware tricks, but we will ignore them for now.) If you create a palette of two colors, the display manager creates a single bitplane. Palettes of four, eight, sixteen, and thirty-two colors result in the creation of two, three, four, and five bitplanes, respectively. In conjunction with this, each bitplane is assigned a value of 1, 2, 4, 8, or 16.

Imagine a line drawn from any pixel, extending through all five bitplanes. The display manager examines all the pixels on this line. If a hidden pixel is "on," the software assigns it a value equal to its bitplane number; otherwise its value is 0. The sum of these values represents the palette register used to draw the pixel. For example, if we indicate the hidden pixels with 1's (on) and 0's (off), then a pixel drawn with the color in register 19 would be 10011 (reading the planes from right to left). Since bitplane 1=1, bitplane 2=2, and bitplane 5=16, the sum of the activated pixels is 19.

The important thing to remember is that this is a register number, not a specific color. Keep this in mind because it is important to understanding the techniques involved in some of the tips presented in the article.

WHAT'S AN ANIM, ANYWAY?

ANIM is an animation-compression file standard developed by Gary Bonham, author of ANIMagic (Oxxi) and the freely distributable player program ShowANIM. It has gone through quite a few versions since its fledgling days when Aegis Development was pushing its acceptance—not very suc- ►

necessary to have a basic understanding of the Amiga's graphic display (also covered in the "Getting Started" sidebar).

By the Numbers:

TEN STARTER TIPS

The first two-thirds of our "Efficient Fifteen" are designed for less experienced animators, but all ten of them add up to major savings in valuable resources, so feel free to take a refresher course even if you've been at the animation game for a while. Otherwise, pick us up in the second part of the course. *(For details on how to contact manufacturers of programs mentioned in either part of this article, consult the "Manufacturers'/Distributors' Addresses" list on p. 88.)*

TIP 1 Use Fewer Colors

There is a direct correlation between the palette and resolution of an animation and its size: More colors and/or higher resolution mean much larger files. Bigger animation files load and play back more slowly. For example, a 320 × 200 two-color image consumes 64,000 pixels to display its single bitplane, while a 32-color palette requires a whopping 320,000 pixels (five planes × 64,000). It should be obvious that if you want to save memory, you should use fewer colors.

If you are not using all the colors in your animation's palette, remap the ANIM to use as few colors as possible, filling the lower registers (0–16) first. In other words, if you are using only 14 colors of a 32-color palette, use your paint program to remap the picture as a four-bitplane, 16-color image. This technique is especially useful if you must eliminate a few colors to reduce the size. Many times an animation will survive a reduction of colors virtually unchanged.

In similar fashion, you may be able to reduce an animation's resolution in order to reduce its size. Use an image-processing program, such as The Art Department ($89.95, ASDG) or Art Department Professional ($199.95), to change the resolution of, say, a 320 × 400 image to 320 × 200. You will be surprised how effective such a simple adjustment can be.

TIP 2 Use Smaller Screens

Next, ask yourself if you really need the entire screen for your image. If you are using The Director 2 ($129.95, Right Answers Group) or DeluxeVideo III ($149.95, Electronic Arts), you can display less-than-full-size screens and dramatically reduce your storage requirements. If your presentation program does not have this feature, save the undersized screen as a brush and stamp it in place on a blank background screen just before you display the image.

TIP 3 Overscan Is Expensive

If you decide to use the Amiga's overscan display mode for your ANIM, beware! Overscan files are deceiving. That narrow band you add around the edge of the picture increases the size of the image by more than 30 percent. This usually results in a much larger file than you anticipated and, worse, an animation that does not play very fast. The solution is easy: Use the normal format whenever possible. For example, overscan is unnecessary if your static image is smaller than a full screen and it appears on a solid-color background. If you set the border color (color 0) to the same color as your picture's background, you will never see the surrounding frame—cheap overscan!

TIP 4 Use Brushes, Not ANIMS

Another question to consider is whether the sequence needs to be an ANIM or whether your software can do the job for you, instead. For example, if you need to move a title from left to right across the screen, you could create an ANIM using the nifty Move menu in DeluxePaint III ($149.95, Electronic Arts) to automate the progression of the brush over the background. But why not eliminate DPaint and the ANIM altogether? Instead, you could use DVideo III's Path tool to accomplish the same thing in real time. Save the brush and picture files separately, and let your presentation program do the rest. This technique fails miserably (the results will be slow and jerky) if you have too many brushes to move, or if the brush is too large. If that is the case, however, try using smaller or solid-color brushes whenever possible, or, if you can organize it, try staggering the brushes so that no more than two or three appear on the screen at the same time. ►

cessfully—as an industry standard. The ANIM format is now very widely supported, and word has it that Bonham is working on yet another update.

ANIMs are part of the IFF (Interchange File Format) family. When your Amiga stores your animation sequence as an ANIM file, it is compressed so that only the initial scene and the elements that change between frames are saved. This in itself can cut down significantly on the expenditure of valuable system memory and disk-storage space, at the same time allowing for nearly real-time playback of the animation.

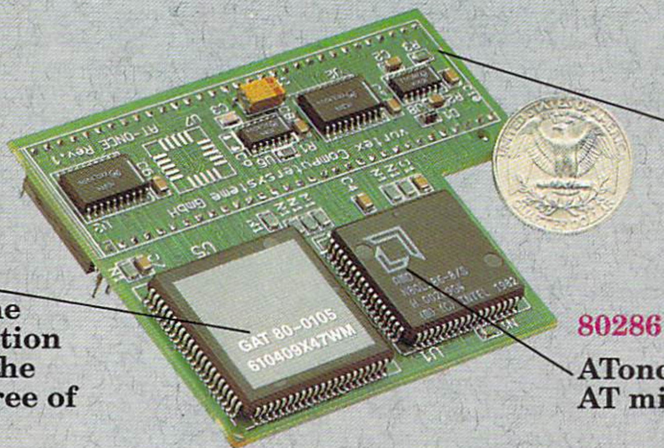
Unfortunately, ANIM files still contain so much information that they tend to become very large very quickly. Just a few seconds of fairly complex animation will produce an ANIM file larger than the 880K that can fit on a standard floppy disk. This is the reason why more crafty, economical measures, such as the tips contained in the main article, are required to handle ANIM files efficiently.

—GB

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The ATonce Gate Array, the ATonce Chip-Level Emulation and ATonce AT-BIOS give the emulator a very high degree of AT compatibility.

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TIP 5 Build Your Pictures "On the Fly"

For a technique similar to that above for still images, use brushes stamped on a software-generated background to build static images on the fly. This is particularly useful if you have repeating elements throughout your presentation. For example, if a logo is to appear on five different screens, save it once as a brush and stamp it in place before you display the screens.

TIP 6 Draw It, Don't Load It

If your favorite application has any tools for drawing to the screen, by all means use them to create simple images such as title screens, company logos, borders, and backgrounds. The Amiga's custom graphics chips can draw these elements faster than you can load them from a file, preserving your precious disk space for more important elements. This tip is particularly appropriate for text screens. It is a waste of memory to save a text screen as a picture file when your presentation software can do the typing for you.

TIP 7 Don't Move the Pixels, Move the Colors

Color cycling is one of those obvious, but often overlooked space-saving techniques. Do not neglect color cycling just because it is not "real" animation. Cycling through the colors in the palette is often all you need to achieve the illusion of motion. In addition, because color cycling operates on a single frame, it adds nothing to the file size. (See "Accent on Graphics," May '90, p. 50, for a detailed description of the color-cycling techniques.)

TIP 8 Patterns and Dithering: Just Say *No!*

Digitized or dithered animations may be impressive, but they place severe strains on your system resources. Digitized animations have so many changes per frame that the resulting ANIM may be larger than all the constituent frames added together! If you find yourself faced with this dilemma, remove some or all of the dithering with your paint program, either by smoothing each frame of a digitized, live-action sequence or by using your program's palette tool to merge and reduce the number of dithered colors in the frames.



TIP 9 Watch Your Loops

Remember that the program with which you create your ANIM files may automatically append the first two frames to the end of your opus so that the animation will "loop" endlessly upon playback. Looping is a powerful tool in the animator's repertoire, but you will not need these extra frames if your creation does not repeat, so don't include them. DPaint III users should instruct the program to save two fewer frames than the total displayed in the title bar. Other programs usually have a software switch in the file menu to accomplish the same thing.

TIP 10 Sounds Like A Plan

Use SMUS (Simple Music Score) files whenever possible. These are files created with scoring programs such as Deluxe Music Construction Set ($99.95, Electronic Arts) or Music-X ($299.95, MicroIllusions). Although a SMUS score can never equal the dynamic range of a song digitized directly from a CD or a record, it will be much, much smaller. Commodore's AmigaVision ($149.95), The Director 2, and DeluxeVideo III support standard SMUS scores as well as 8SVX sampled (digitized) sounds.

While we're on the subject, remember to reuse digitized samples whenever possible. It amazes me how many different sounds can be created from a single sample by varying the pitch or frequency of the original. For example, I changed a dripping water sound into that of a closing door simply by changing its playback frequency.

THE HIGH 5:

ADVANCED TECHNIQUES

If you employ all my basic tricks and still wind up with a bloated, 500-frame ANIM that takes absolutely forever to load, then you probably need more advanced help. Although the following techniques are quite straightforward, they will be easier to grasp if you already have a basic familiarity with the Amiga's internal image structures and the ANIM standard. Review the "Getting Started" sidebar if you need to bone up on these.

TIP 11 Pack Your Palettes, Pardner

"Palette packing" can reduce the size of your ANIM files by at least 20 percent. This somewhat-esoteric technique involves swapping the colors in your ANIM palette and then remapping the sequence to achieve a smaller file. No other changes to your animation are necessary. ►

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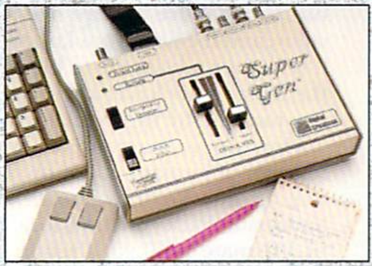


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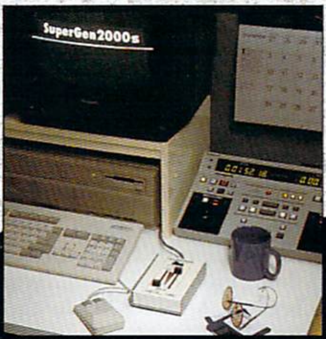


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If you don't believe me, try this simple example. Using DeluxePaint III, create a solid 100 × 100-pixel brush with the color in register number 1. Use the Move menu to animate the brush from left to right across the screen. When I tried it, my test ANIM for this sequence totaled 6630 bytes. Now repeat the process but use register number 31 for the brush's color. This time, my animation consumed 33,150 bytes. Both ANIMs are identical except for the color *register* used to draw the brush. Why was the second file five times the size of the first?

The answer lies in the bitplanes. When your Amiga saves an ANIM, the first thing it does is to scan the sequence frame by frame, looking for changes between frames. The software calculates the differences for each bitplane. These changes are then stored with the bitplane. If a pixel drawn with color 1 (only bit 1 is "on") is transformed to color 31 (all five bits are on), then all five bits are needed to describe the new color, and the file is thus larger by fivefold. Therefore, it is to your advantage to place the colors that change the most in the lower registers, preferably those that use just one or two bitplanes.

How do you accomplish this? First, reduce the number of bitplanes used by your animation by eliminating any colors you are not using. Using the automatic Pack function located in the Color menu of PIXmate ($49.95, Progressive Peripherals) is an ideal way to achieve such a reduction. The next step is an exercise in trial and error, at least for now. Many image-processing programs, such as Deluxe PhotoLab's Color module, have a "histogram" function that totals the number of pixels used by each color in an image. (PhotoLab used to be available separately, but is now bundled with Electronic Arts' DVideo III.) If you use this tool to compare a few typical frames, you will see instantly those colors that vary the most.

Next, use your paint program's palette tool to swap these colors to registers 1, 2, 4, 8, or 16 (assuming a 32-color palette), and then remap the ANIM. Any color placed in one of these registers requires only one bit to describe the color. The next best locations are registers 3, 5, 6, 9, 10, 12, 17, 18, 20, and 24—all of which use only two bits. If you can put all the changing colors in these registers, your changes will never exceed two bits. A software program that automates this process would be most welcome. . .any takers?

TIP 12 Intelligent Disk Mapping

Another important, but little-used technique is the art of intelligent disk mapping. Simply put, this involves placing your files on the disk in such a way as to minimize your disk drive's head-travel time. The closer the next track, the faster the file loads and the shorter the time between segments. This is important, because AmigaDOS has the annoying habit of scattering pieces of a file around the disk, putting the bits and pieces wherever it finds space on the disk. While this uses the available disk space efficiently, the result is often a lot of grinding by the drive while it searches out the pieces of your file.

The solution here is simple. Create a final master disk by copying the necessary files one at a time, in script order, to a clean disk. If you are CLI-literate, simply use the COPY ALL (not DISKCOPY) command to reorganize and optimize your files on a clean disk.

TIP 13 Preload Big Files

Sometimes, even after all the manipulations mentioned above, your file is still too large to load in the amount of time available. There are a couple of easy solutions to this dilemma. Perhaps the easiest is to load the file before the animation begins and hold it in memory until you need it. Many animation programs provide a way to preload animations. Two of these, The Director 2 and AmigaVision, let you begin loading a file and then start playing it back immediately—before all the frames are loaded.

TIP 14 Slice and Dice Big Files

Another quick fix for Director users is to break the file into smaller pieces and to load them when you have any free time during your animation. When you need the sequence, simply play the pieces as a series of contiguous animations to re-create the original. I specify The Director because it is the only presentation software I use that can switch between animations without halting everything momentarily.

TIP 15 Economize When You Digitize

If you digitize your animation from a live-action video sequence, remember that you do not need to copy every frame of the original. Professional animators use a technique called animating "on twos" (i.e., every second frame) in order to save time and reduce the number of frames that need to be drawn. You can profit from emulating this technique in your digitizing sessions. In fact, you may be able to extend it even further by animating "on threes" or even "fours" if the sequence does not change very much over time. Be aware that this method is not as useful for scenes with lip-synched sound tracks. It will be difficult to re-create the original timing and nuances of speech without digitizing all the frames.

While our efficiency course ends here, keep looking for other ways to economize. These hints and tips are but a small sample of the techniques available to the creative producer. Consider them as a starter set on which to build your own magician's chest of tricks. The application of a little brainpower and a basic knowledge of the Amiga's inner workings will do wonders in dealing with your animation problems. ■

Gene Brawn is a digital animator, graphics designer, and frequent lecturer, as well as a contributing editor to this magazine. Write to him c/o AmigaWorld, *80 Elm St., Peterborough, NH 03458.*



All photographs are of actual DCTV screens.



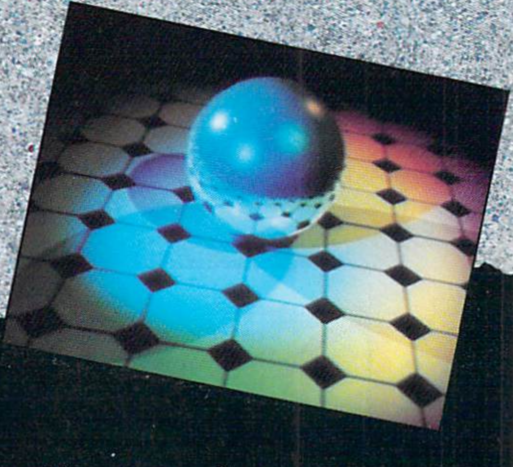


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In using Amiga products, I have learned many things that keep my own computing life orderly. These tips and resources may help you, too. Even if you do not take every recommendation offered here, I bet you will find at least a few among them that can make a positive difference for you.

For details on how to contact the developers of products mentioned in this article, consult the "Manufacturers'/Distributors' Addresses" list on p. 88. Software labeled FD is freely distributable—either public domain (totally free), shareware (the author requests that you pay a fee if you keep using it), or copyrighted (the author requests credit, but no money). These programs are available through networks, BBSs, and the Fred Fish disk collection.

Disky Business

One thing every Amiga owner should have is at least two disk drives. Because much of AmigaDOS is loaded from disk as needed, a single-floppy system is very limiting. For around $100, a second floppy drive can save you time and aggravation, and make you a happier person. ►

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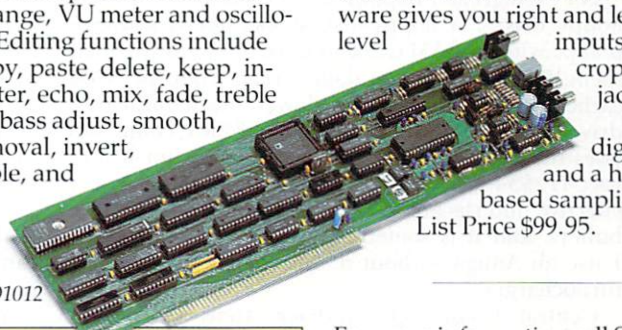
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AD1012

Audition 4 vs. AudioMaster III

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Preview Effects	yes	no
Real Time Filters	yes	no
Num. Real Time Effects	8	3
Time to do 100K Echo	22 secs	106 secs
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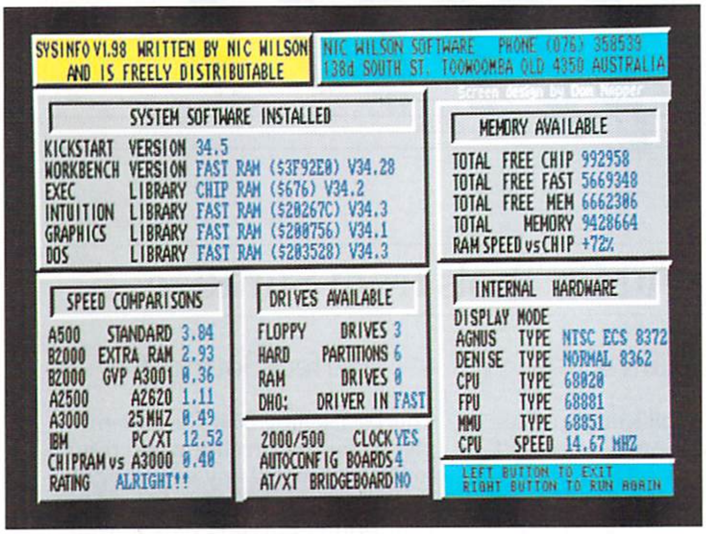
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SysInfo runs its diagnostic tests in about three seconds and then displays the results on one screen.

For even greater happiness, you can speed up your floppy drives. A floppy-disk accelerator is software that provides a RAM cache to store things as you load them. Once loaded, the data is read from the RAM cache instead of from the slower mechanical disk drive. (The AmigaDOS ADDBUFFERS command does the same thing, but uses valuable chip RAM.) Facc-II ($34.95, ASDG) uses fast RAM, it has a very effective interface for raising and lowering cache buffers, and it is something I truly miss whenever I use an Amiga without it. It is like a floppy-drive turbocharger.

Central Coast's Quarterback Tools (which, at $89.95, provides many utilities) and B.A.D. ($49.95, Centaur Software) can speed up your drives by defragmenting the files on your floppy and hard disks (be sure to back up your files before using them). As a disk fills up, the system may not be able to find one contiguous space in which to write a file, and may have to scatter data segments across the disk. Because the drive head must move across the disk to read a fragmented file, access slows. Files on a defragmented disk are more organized, so they load faster.

If you do not already have a hard disk, you will want one eventually. A hard disk offers almost instantaneous availability of dozens, perhaps hundreds of megabytes of programs and files (drive speeds vary, but any hard drive is far faster than a floppy). It also saves you from digging through stacks of floppies to find what you need. When you buy a hard disk, go for the greatest capacity you can comfortably afford—certainly nothing smaller than 40MB. You will soon discover that no matter how big a drive you buy, it is not big enough. You might even want to investigate the new removable-media drives (see "Bottomless Disks," Apr. '91, p. 20, for a look at the various removable-media technologies).

Keep in mind that while every mounted hard-disk partition uses some RAM, drawers do not. Rather than creating many separate partitions, you may want to use a few large ones and put related software into subdirectories. You can add a lot of path commands to your startup sequence, but when you type a command's name at your CLI or Shell prompt, the system searches the SYS:C directory anyway. Thus, putting those often-used command-type utilities in the C directory saves you from building paths to them.

Hard-disk owners need hard-disk back-up software. My two favorite hard-disk back-up programs are Quarterback ($69.95, Central Coast Software), and ExpressCopy ($49.95, ExpressWay Software). Quarterback's interface makes it very fast and intuitive. ExpressCopy, however, has a flexible ARexx port and a nifty CanDo-created front end (which you can customize using INOVAtronics' CanDo—a $149.95 authoring program). It also creates standard AmigaDOS-format disks, while Quarterback uses a custom format that only it can read.

When trouble comes to your hard or floppy disks, it is not always necessary to reformat and restore from your backup. You can correct some disk errors by using the right utility. Two that you should not be without are DiskSalv (FD by Commodore's Dave Haynie), and FixDisk (FD by Werner Gunther). FixDisk can attack those fearsome "Key NNNN already set" or "Volume FOO is not validated!" messages. DiskSalv is purely command driven, while FixDisk sports a slick user interface. Both programs can also restore deleted files if you have not written to the disk since you deleted them.

You should also avoid having your only copy of important tools on the hard drive—it might suddenly become unreadable. Take the time to build an "emergency" disk. Start with a stripped-down copy of your original Workbench disk, leaving the L directory's libs and devs intact. Fill it with a copy of your hard-disk reconstruction tools, your name-and-address database, and your favorite terminal program, word processor, or whatever tools you frequently use. Keep this disk in a safe place. Having a first-aid kit on one disk will save you a lot of time when you need to find everything quickly.

When you install devices such as hard disks and accelerator boards in your Amiga, you can check on their performance with diagnostic and benchmarking programs. These are handy not only to verify that a new add-on is working correctly, but also for the all-important purpose of bragging to your friends about how fast and powerful your Amiga is. I recommend SI, also called System Information (from the Kramden Utilities, FD by Pregnant Badger Software); Speed (FD by Argonaut Software); Amiga Intuition ►

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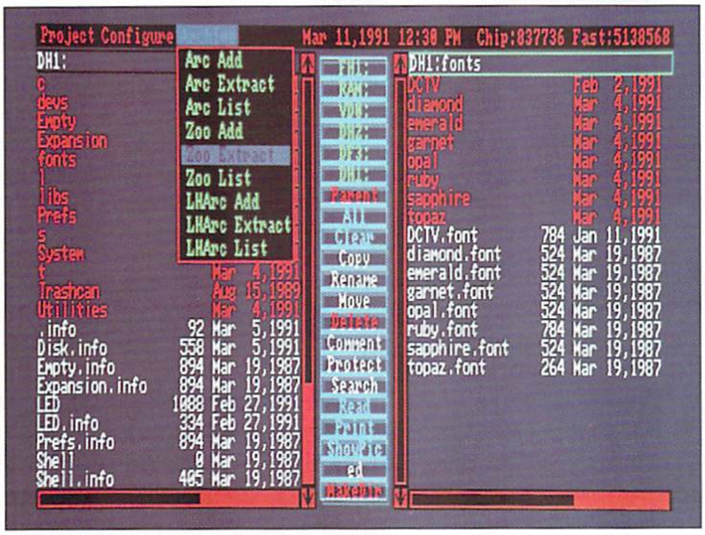
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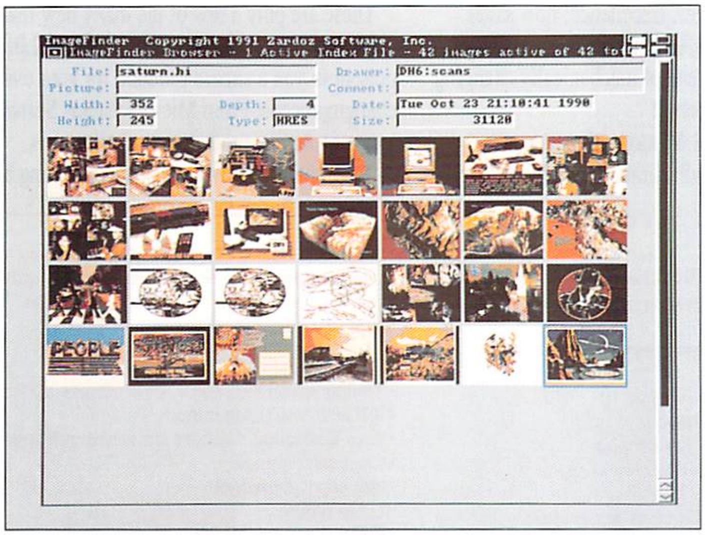
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ImageFinder creates an index of picture files using miniature screen representations.

Based Benchmarks, or AIBB (FD by LaMonte Koop); and SysInfo (FD by Nic Wilson).

A number of other programs let you view and control various aspects of your Amiga's inner workings. TaskX and ScreenX (both FD by Steve Tibbett) are two examples. The former lets you control task priority, while the latter tells you the attributes of a screen and lets you grab it as an IFF file. SnoopDOS (FD by Eddy Carroll) lists the libraries, fonts, and so on that a program requires as that program loads. Switcher (FD by Khalid Aldoseri) provides a pop-up window that lets you flip between windows. Finally, ARTM, or Amiga Real-Time Monitor (FD by F.J. Mertens and Dietmar Jansen), combines the functions of many of these utilities.

Fighting Files With Files

The longer you work with a computer, the more files you acquire. This is a simple fact of life. Moving those files around from one disk or drawer to another gets to be a chore. If you do not like to use the CLI or Shell or to write scripts, then you need a directory utility. There are dozens available; each is a graphical, mouse-driven front end for AmigaDOS commands, and most have source and destination windows and many buttons for different functions.

Which utility is best usually turns into a religious argument. My favorite, the inexpensive DiskMaster ($49.95, Progressive Peripherals & Software), is full-featured and easy to use. Not only is it great for quickly shuffling files, but it can also show pictures, play sounds, print text files, unpack compressed downloads, compress files for uploading, and make many otherwise tedious tasks fun. Other excellent directory utilities include D.U.D.E. ($19.95, Centaur Software), and SID (FD by Timm Martin).

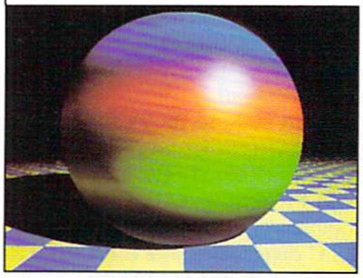
Find (FD by John Scheib) is a fast little utility that searches every mounted device on your system for whatever filename you feed it. It also allows wildcards. For locating a particular graphics file from the dozens or hundreds you have collected, check out Image Finder ($65, Zardoz Software). This incredible program creates visual indexes made from miniatures of all your screens and brushes, making them easy to locate on a crowded hard disk or in piles of floppies. Image Finder will even pop up and let you "inject" the name of a picture file into your favorite paint program's requester, just by clicking on a postage-stamped version of that picture.

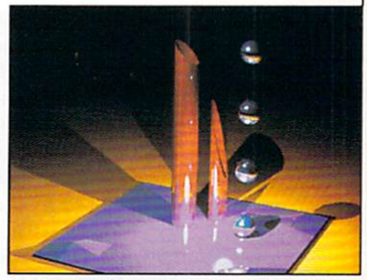
What do you do when you have more files than space. . .when your Workbench boot disk or your hard drive fills up? Hardware compression chips are not yet available for the Amiga, but there are two slick programs that can pack down your files while still allowing easy access to them. Turbo Imploder (FD by Peter Struijk and Albert Brouwer) and PowerPacker (FD by Nico Francois/PowerPeak) enable you literally to put 80MB of data onto a 40MB drive. They can compress applications to half their existing sizes, allowing you to run the programs with just a brief hesitation as they unpack into memory after loading. Imploder can handle libraries and programs that use overlays, while PowerPacker can crunch down programs, pictures, text files, and animations.

Names, addresses, and phone numbers are important to everyone. Post-it notes and scraps of paper just do not make for an organized desk. For working most efficiently with name-and-address data, you should have a database manager. I have found Micro- ►

H A M - E

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These images are **completely unretouched** photos taken from a stock 1084s RGB monitor using the basic HAM-E unit. They are pure RGB, *not* smeary composite.

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There's not enough room to cover all the features of this system, so here's just a few.

SYSTEM FEATURES

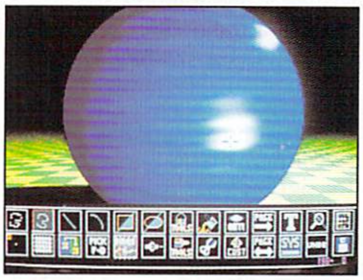
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- 256 color stencils
- Matte/color/anti-alias/cycle draw
- Prints via printer device
- Auto enhance std IFF palettes
- Writes IFF24, GIF,™ HAM-E



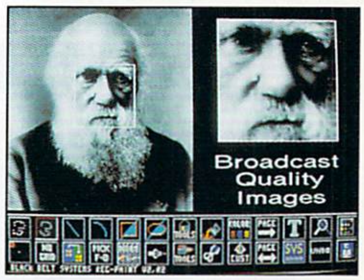
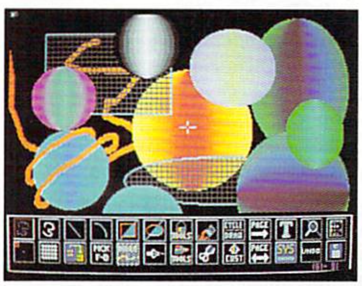


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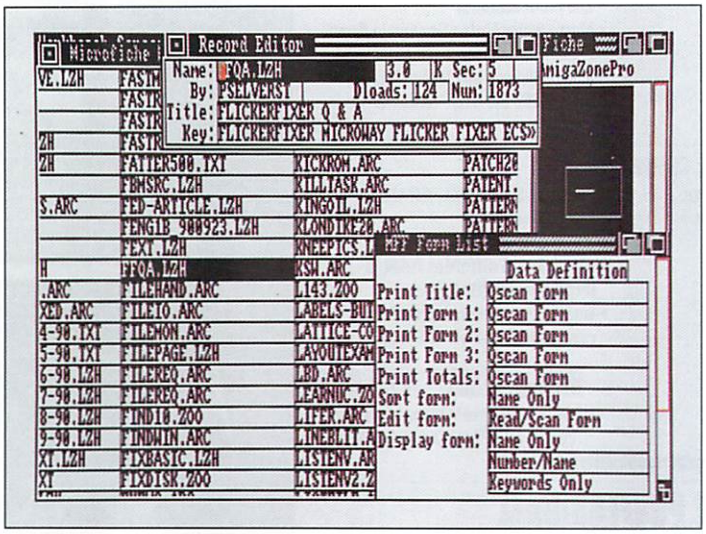
DigiView™ New Tek; Amiga™ Commodore Business Machines; GIF™ CompuServe; Dynamic HiRes™ NewTek; ScanLab™ ASDG; Targa™ True Vision; Eagle image copyright True Vision; 1084s™ Commodore; AHAM, ARZO, ARZ1™ ASDG; HAM-E™ Black Belt Systems.

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Fiche Filer ($99) and MicroFiche Filer Plus ($179, Software Visions) to be ideal. The programs come with truly useful templates that are perfect for home or small-business use. Both are extremely powerful, yet easy to learn and use. A less expensive alternative geared strictly towards address-book functions is Mail-O-Dex ($49.95, KarmaSoft). It is not as full-featured as the Software Visions products, but Mail-O-Dex's attractive price and simplicity may be exactly what you need.

If your life, as well as your address book, needs organization, look at NAG Plus ($99.95, Gramma Software). This program combines many features. It can store all your upcoming appointments and then cue you at the appropriate times with various sounds and visuals.

NAG Plus, like many other programs (both FD and commercial) mentioned here, provides an ARexx port. ARexx (included with the 2.0 system software from Commodore, or purchased for $49.95 from William S. Hawes) is a sophisticated programming



MicroFiche Filer and MFF Plus let you magnify and scroll through any area of a database.

language that facilitates task sharing among programs. It is useful even to nonprogrammers because most ARexx-capable software comes with some ready-made macros, and hundreds more are available to download. Many such macros are extraordinarily handy and can save you lots of time.

"Free" Wheeling

There is perhaps no single computer peripheral more useful than a modem. With a modem and a terminal program, you have access to tens of thousands of programs and files you can download into your Amiga. Before being uploaded, most files available for downloading are compressed, or "archived," thus requiring less time—and hence less expense—to transfer). For this reason, you should keep a set of programs on hand to deal with the files you download.

Your archiving collection should include PKAX for .ARC files, ZOO for .ZOO files, LHARC or LZ for .LZH files, WARP for .WRP files, LHWARP for .LHW files, DiskMasher for .DMS files, and PKAZip for .ZIP files. All of these are freely distributable. As with other command-type utilities, your SYS:C directory is the ideal place to store them. From there, they can load right up, no matter which disk or directory you are in.

Nothing can spoil a downloading session faster than someone in another room picking up an extension phone and killing your connection. Unless you live alone, you might want to consider a second phone line just for your modem. Rates vary, so consult your local phone company. Do not ask for a data-grade line; a regular voice line is fine and costs much less. Most modern apartment buildings are already wired for two or more phone lines, so turning on a second one might just take the installer a few minutes to twist some wires together and add a wall jack.

Few of us live in a town with a lot of great Amiga BBSs from which to choose, so serious modem addicts will see some serious long-distance phone bills. If you are spending more than $30 a month calling BBSs, you should get a PCPursuit account from US Sprint/Telenet (call 800/736-1130 for sign-up information). This service gives you 30 hours of evening and weekend modem dialing for $30 a month, up to 2400 baud. Even better family and handicapped rates exist, if you qualify. Your unique PCPursuit ID number and password can become your magic carpet to bulletin boards and networks all over America.

Another valuable resource is the closest Amiga users' group, which gives you the chance to share tips, tricks and advice with other nearby Amiga owners. Someone two blocks away may already know the answer to the problem you have been struggling with for months. Many groups offer new-product demonstrations, hold prize raffles and have huge disk libraries you can copy. Further, local dealers often give discounts to users' group members, so you can easily recoup your yearly dues.

Organizing ourselves is not something most of us do with ease or glee. Putting your Amiga work system in order can actually be fun, though. Certainly the rewards are something to look forward to. Regardless of which programs or methods you use in your own system, you can smile smugly to yourself when you begin to realize the time, equanimity, and even dollar savings that are sure to follow. ■

*Harv Laser is senior chairman/sysop of People/Link's AmigaZone clubs. You can find him on Plink as CBM*HARV or on Usenet as crash!hrlaser or hrlaser-@crash.cts.com.*

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ACCENT ON GRAPHICS

Darkroom Dexterity

#28

A continuing series of tips, techniques, and tricks for creating more imaginative Amiga graphics.

By Joel Hagen

TO UNDERSTAND WHY creating a screen image is not necessarily the same as completing the finished artwork, consider this analogy from photography: As any photographer will confirm, the image on the negative is only the beginning of the creative operations that lead to the final gallery print. The work that goes on in the darkroom can radically change or subtly polish the finished image.

More and more, I am finding that this darkroom analogy applies to a category of creative processes I regularly employ with my Amiga artwork. To my delight, a new program, Art Department Professional ($199.95, ASDG) has greatly expanded my options in these "darkroom" operations and significantly enhanced the quality of my results. (The original ASDG image processor, The Art Department, was reviewed in the Sep. '90 issue, p. 84. Watch for a feature-length review of AD Pro next month in the July issue.) For the purposes of this column, I will simply describe how I used certain features of the program in the sequence of operations required to finish the painting "Deep Reef" (opposite).

If you do not own AD Pro, you can try many of these techniques in Digi-Paint (NewTek) using a combination of the Merge Screen and Transparency settings. The results will not be quite the same, however, as those of AD Pro's 24-bit manipulations.

Three-Layered Compositing

Knowing the capabilities of AD Pro, I planned the painting from the outset as three layers that I would eventually "composite" as transparent overlays. (If you follow this column regularly, you know that the technique of compositing images is one of my current favorites—see "Accent on Graphics," Nov. '90, p. 66, and Feb. '91, p. 58, for more on compositing.) The more I explore transparent compositing, the more I realize it is one of the unique capabilities of the computer medium. With AD Pro translating all my images into 24-bit data, I can then perform my manipulations at that depth before rendering the final image in the resolution and format of my choice. The AD Pro results are better than those obtained with any other software I have used to perform similar operations.

I painted the first image—the fish—in Digi-Paint 3 (NewTek) using techniques described in the Jan. '90 "Accent," (p. 40). I painted the fish against a solid black background so that by controlling Digi-Paint's transparency and hotspot settings, I could use that black to shade the forms and add a sense of dimension.

The second painting, also in Digi-Paint, is a colorful abstract of transparent shapes done with very bright saturated colors. I used saturated colors because I planned to overlay this image with the black background of the fish painting, thus knocking the colors way back.

For the third image, I used Digi-View to capture a black-and-white close-up of a stone covered with lichen. I wanted to incorporate the texture of the lichen into the painting as detail under the color, anticipating that the gray scale would reduce the intensity of the colors in the other two images.

Okay, Load 'Em Up!

Setting AD Pro's Load option to Composite, I loaded the abstract as the fist image. When the requester specifying amount appeared, however, I chose to load the image under No Composite—wanting it to be the starting point for my layering operations. I then loaded the lichen image, setting the mix to 50%. This caused it to merge with the abstract image so that equal emphasis was given to both. I displayed the composite as a 320 × 400 HAM image to test the result.

Liking the textured color, I was now ready to load the fish. I set the

A new image processor offers darkroom-like control over subtle variations in the color, brightness, detail, and texture of your finished artwork.

mix to 20% to bring the fish only faintly into the image. Also, by specifying black to be a transparent color in the loading image, I ensured that only the fish would merge with my textured background, leaving surrounding colors untouched. To specify black as transparent, I entered values of 0,0,0 in the RGB transparency settings. (These settings are for 24-bit color, so they range from 0 to 255. You can specify any color you wish to be transparent.)

To create my final layer, I loaded the fish again, but this time at a 30% mix with no transparent color (RGB settings of −1,−1,−1). This resulted in bringing greater emphasis to the fish while allowing the black background to subdue the colors of the surrounding abstract texture. Because these composites are calculated at 24 bits and then rendered to HAM, the results are quite clean.

Smooth and Subtle Operators

There are a number of AD Pro "operators" that you can use to do further work on your image. (The manufacturer promises more of these operators in the future; you can simply add them to the program as they become available.) I used one such recent addition, the "blur" operator, to soften the present image. After that, I considered "Deep Reef" finished to my satisfaction as a screen painting.

I knew, however, that it was meant to be not only a screen image, but also a printed picture to accompany this article. This brings up a frequently encountered dilemma: Images always print darker than they appear on screen, even when you keep (as I do) your brightness and contrast monitor settings up at midrange. It is a difficult business adjusting images for print; sometimes it requires an act of faith to take an image you are pleased with and then tweak it into a bright, washed-out version to send off for publication. Yet that is often exactly what is needed to get good results in print. The computer artist must always think of the image in terms of its final output, not just how it looks on the screen.



In "Deep Reef" (above) ASDG's Art Department Professional was used to composite three separate images and then to make adjustments to the screen image in preparation for printing.

AD Professional, however, offers some very sophisticated options in balancing and adjusting that final image. One of these, the "dynamic-range" operator. analyzes the image and notes the smallest and largest values contained in the color data. It then allows you the opportunity to select a new range of maximum and minimum values and to constrain or expand all the image data to that new range of values. This is a powerful feature once you get the feel of it.

My "Deep Reef" screen image needed to be lighter for the printed version. It had a range of color values from 0 to 238 out of a potential of 0 to 255. I entered a new range of 30 to 240 and executed the dynamic-range operation. The result retained all the image detail, proved faithful to the original colors at the high end, and smoothly raised the values of the darkest colors to where I hope they will print well.

Using AD Pro, I feel as though I am in my darkroom dodging a print and experimenting with sandwiched negatives. I'm hooked on the creative opportunities this program has opened up for me. Try it. ■

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope for a reply.

Applied Design Basics

By Mitch Wells

EXPERIENCED DESIGNERS KNOW that what works well with the printed page usually works with presentation graphics—provided you take into account the orientation of the viewer. When working with text screens, neophyte designers tend to either clutter screens with too much information or use type that is big and clunky. You can learn much just by considering tried-and-true standards and observing how they are implemented.

Take a minute to think about how type is laid out in quality textbooks and magazines. The size of the print assumes that the reader is within one to three feet of the page. Body type is usually 10–12 points in size (a point being $^{1}/_{72}$ of an inch) and is generally set in a serif typeface in both upper and lowercase letters. (A serif typeface has small strokes at the ends of the letterforms; the text you are reading right now, and the "Applied Design Basics" heading at the top of this page both use a serif face.)

Headlines are usually done in a 36–48 point font (note that this is three to four times larger than the body type) and are sometimes in bold. They are sometimes in all uppercase characters. (All uppercase text should be reserved for short text strings—such as heads and subheads—as it is more difficult to read than mixed cases.) Subheads are usually 18–24 points, bold, and usually in upper- and lowercase letters.

Words that are all uppercase generally use serif type faces, which are considered easier to read. Subheads are usually done in sans serif (sans serif faces do not have strokes at the ends of the letterforms; the word "Mastering" in the Mastering MultiMedia logo is an example of a sans serif font).

When determining which fonts to use, the place to start is with heads and subheads. In deciding on a size, first consider which resolution you will be working in. Keep in mind that the resolution of a monitor is *much* less than that of the printed page. Compensate for this by using the highest resolution available whenever possible and by anti-aliasing text (a technique that uses transparent pixels to smooth the jagged edges in computer graphics). Then consider your screen size; will one person at a time view your presentation on a standard 1084 monitor? How about a 20-inch monitor? Or, will your presentation be projected in a room full of people?

You can use the magazine-design standard for headlines as a guide when working with video screens. Headings containing two to three four-letter words typically occupy $^{2}/_{3}$ to $^{3}/_{4}$ the width of a magazine page. This is a good rule of thumb to use for presentations that are to appear on a single 14-inch monitor. Using a larger screen, $^{1}/_{2}$ to $^{2}/_{3}$ of the screen width is adequate. Limit subheads to one-half the width of a standard screen for four four-letter words.

Out-of-Body Experiences

I suggest you avoid anything resembling body text in a presentation screen—the type is just too small. If you cannot avoid it, I suggest you use a font no less than half the size of your subhead type and a type style that is appropriate for subheads. This essentially makes anything set in body text simply a smaller subhead. Also, keep your text as brief as possible and substitute graphics for text whenever possible.

Use a screen graph (discussed in "Mastering Multimedia," May '91, p. 74) to decide on placement for heads and subheads, and stick to these locations throughout your presentation. This will give it consistency. If you must use both a heading and a subheading on one screen, use some graphic element such as a rule or a line of bullets (evenly spaced dots) to offset the two when space permits. As with the heads and subheads themselves, try to place these graphic elements in a location that can be used consistently. If you plan to use more than one subhead on a screen, insert extra line spacing between them. It is best to use high-contrast colors for headings and mid-contrast colors for subheads—except when setting up a "build."

A build is the process of displaying a text list one line at a time. Say you have a list of three automobile manufacturers—Ford, GM, and Chrysler—that you would like to introduce individually onto your display screen. Using a build to display them, you would start by placing the word "Ford" in a bold, high-contrast color in the upper middle of the screen. In the next frame, you would add the letters "GM," also in a bold, high-contrast color, just below "Ford." At the same time, you would reduce Ford to a mid-contrast, nonbold subhead. Fi- ►



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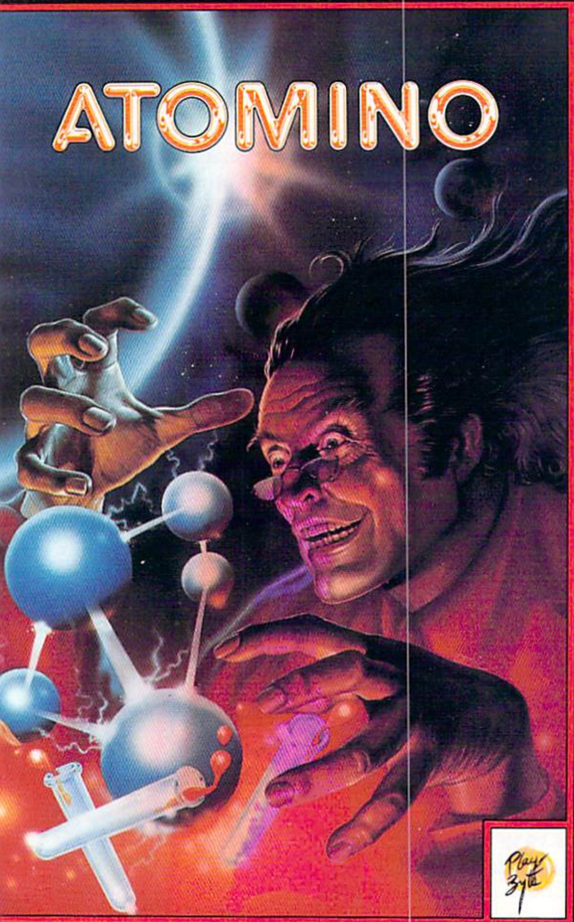
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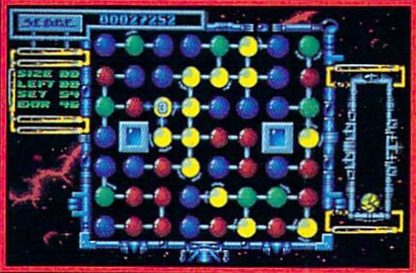
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Up and Atom!

Screen Shots from the Amiga Version







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nally, you would bring in "Chrysler" just as you did GM in the last frame, and place it in the lower middle of the screen. GM, then, would shrink in size and color to match Ford.

The build sequence might end with all three words as standard subheads, leading on to the next screen of your presentation. Whether or not you use the build approach, putting a graphic element (like a bullet) before each entry and aligning the elements vertically make the list easy to read.

COLOR GUARD

Color is probably the most complex element of any presentation, and yet it is the one that is often given the least amount of thought by beginners. Without going into too much detail, here is a list of things to consider when deciding on the use of color:

Readability — The clarity of your presentation *must* take precedence over the colors you might like to use. It is a fact that combinations of pure high-contrast color—such as pure blue on black or full red on blue—are hard to read. By all means, avoid such combinations. What works for video production works for presentation graphics. Simply avoid full-power colors—that is, colors with fully-saturated red, green, or blue elements (set all the way to 15 in DeluxePaint's palette).

Hierarchies — If elements of your presentation are related but vary in importance, use a palette that has combinations of colors in varying intensities. For example, in a 16-color palette, you might try using three shades each of red, green, yellow, blue, and grey, in addition to a background color (probably black). This not only allows you to show order-of-importance relationships (you could use all three reds on one screen, for example, to imply hierarchy), but also allows for color builds within text lists (that is, the use of more intense colors for emphasis, as in the build described above).

Association — When you see red, what do you think of? Fire, danger, financial loss, elements of great importance? Sure, that's why stop signs and fire engines are red. Too often, beginning screen designers use colors without considering what they might mean to the viewer. If you were doing a presentation to teach kids about recycling, what colors would you use? Probably varying shades of green (associated with grass and trees), blues (associated with sky and water) and yellows (sunlight) for positive elements. You could add browns (burnt wood, buildings) or reds (danger) to emphasize any negative elements. Remember that people everywhere associate color with familiar things—regardless of what you may want that color to portray.

Audience — Upscale audiences tend to like soft pastel colors; audiences of less sophistication react well to primary color elements; kids tend to like anything bright. When considering color, be sure to consider your audience.

Relationship and differentiation — Some color combinations make good design sense and others do not. Often, context makes all the difference in the world.

Certain colors are near each other on the color wheel (and are therefore called spectral neighbors). Blue and green, red and orange, yellow and green, for example, enhance one another well. These make good side-by-side combinations and imply relationship.

Because spectral neighbors do suggest sameness, you should avoid these color combinations when you want to differentiate elements within a presentation. Instead, use strongly contrasting colors (sometimes called triad colors), such as mid-tone red, yellow, and blue; or at least add opposite colors to elements of the objects. When you do use color opposites, however, try to distance them—that is, do not let them touch each other. If color opposites must touch, be sure they are not fully saturated. Full-intensity color opposites tend to visually "vibrate" when they are adjacent.

One of the trickiest color elements to use, but perhaps the most gratifying, is the multicolored background. The best advice that I can give here is to consider how the relationships of the colors in your background and foreground elements compare to the basics mentioned here. Don't feel limited by these guidelines—they have become standards only because they work effectively! ■

Mitch Wells is president of AFR International, a videographics production company. Write to him c/o AmigaWorld *Editorial, 80 Elm St., Peterborough, NH 03458.*

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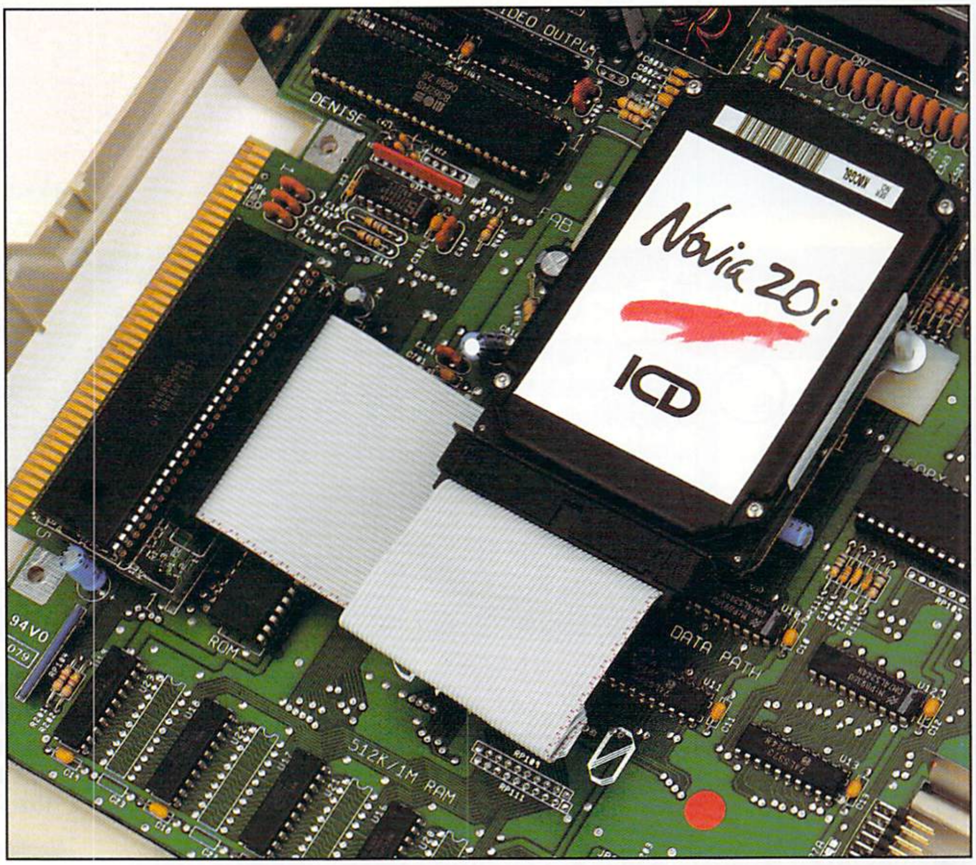
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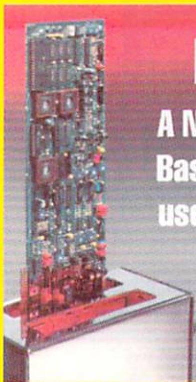


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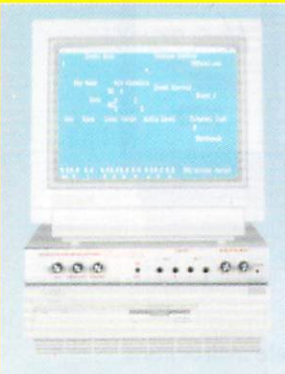


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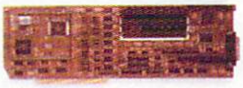
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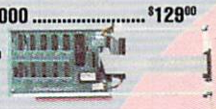
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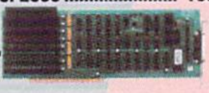
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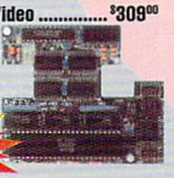
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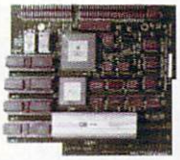
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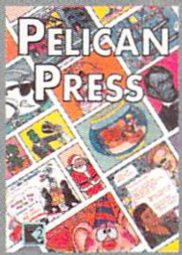
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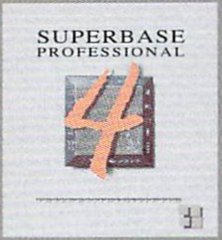
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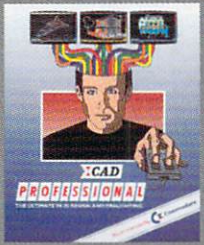
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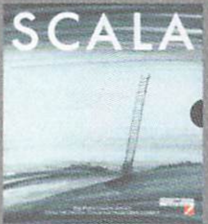
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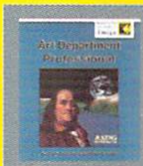
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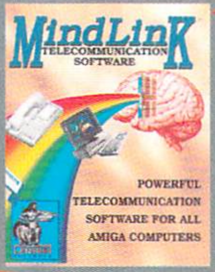
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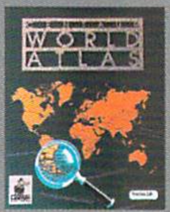
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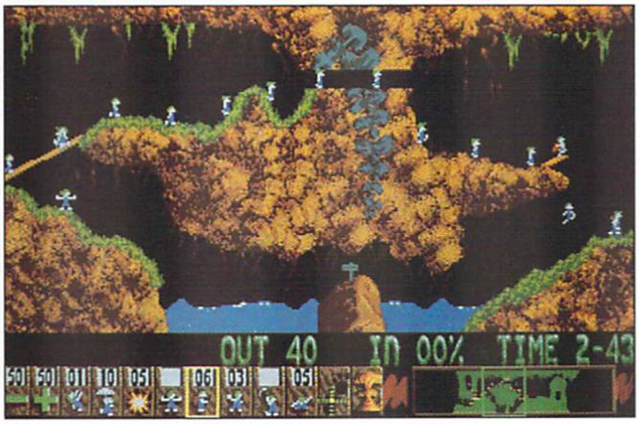
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THE GAME PRESERVE

LEMMINGS

By Dodson Yaple

Lemmings are odoriferous arctic rodents notorious for periodic mass suicide. You'd think that would rule out computer-game stardom. But no—Psygnosis craftily transformed the mean-tempered ice-rats into lovable Pillsbury Doughboys with green hair and 78-rpm voices. These little guys are so darn cute you just can't help wanting to save them from self-destruction. That's where your problems begin.



Dig and climb and jump and live.

Lemmings ($44.99) looks like an arcade game, but it's more a series of puzzles: Save a specified number of the cuddly creatures within a given time limit, or else repeat the level. You manage the action by bestowing various skills on individual lemmings, enabling them to construct bridges and tunnels that divert their less-gifted buddies to safety.

Icons across the bottom of the screen represent the skills at your disposal: climbing, parachuting, traffic control, bridge building, demolition, and three kinds of digging. Select a skill, then click on the desired rodent, and that lemming will do as you command. The others, however, will cheerfully plunge to their doom at every opportunity. When so many of the contrary little vermin have reached room temperature that you can no longer succeed, you have to reset with the apocalyptic Nuke 'Em option and try again.

Lemmings' graphics and sound are polished, but unambitious. What it lacks in flash, however, it makes up for in comfort: Smooth and addictive, it includes a fast restart option, instant access to any level you've already seen, and a nifty two-player mode with 20 levels of its own. The program detects and uses extra memory. It recognizes an external drive and minimizes disk-swapping on single-drive systems. The only rough edge is the DOS-based copy protection.

To make sure you experience plenty of stress and frustration, Lemmings increasingly restricts your use of the most helpful skills. The screens get so tough that you think there must be design flaws. Goofy music drones on relentlessly, subtly lowering your intelligence. By level 50, you're considering suicide yourself. . .and level 51.

BAT

By Peter Olafson

BAT (short for Bureau of Astral Troubleshooters) is a delightfully different graphic adventure with a science-fiction theme. At first glance, this long-awaited game from France's UBI Soft looks like a computer comic book or ►

To locate developers of the games reviewed, see the manufacturers' addresses list on p. 88.

Crib Notes

By Peter Olafson

DID *EVERYBODY* GET *Shadow of the Beast II* ($59.99) for Christmas? No sooner do I answer a stack of Beast mail (see the March '91 Crib Notes), than a fresh supply of questions arrives on this supremely difficult Psygnosis arcade-adventure.

A number of people are perplexed over what to do with the shard of stone remaining after they used the crane to drop the slab on the spike. Play Wile E. Coyote, that's what. You'll need to push the stone over to the lever to the right, then climb the rope to roughly. . . (well, you figure it out) and jump on the lever. Then get over to the lower elevator in time to be lifted up to Ishram the dragon.

No, you can't get back out of the marsh the way you came, and so you shouldn't visit it until you are prepared to cross the ocean. To do that, you'll need the horn that summons a sea creature. The horn doesn't come easily. You must have handled the giant by the bridge in just the right way. (Don't fight him. Play hard to get, and coax him onto the bridge.)

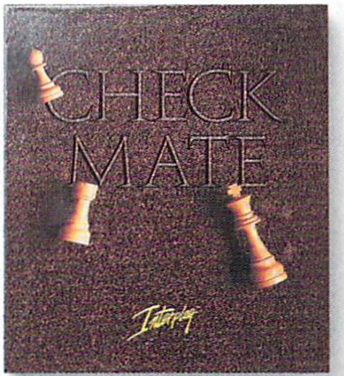
You'll want to investigate the breach he's created. There aren't a lot of options down there, but you'll need to be fearless in your jumping and aggressive with the little dragon-like creatures. (Use the old man's weapon. There's also a healing potion somewhere down there if you run into trouble.)

If you can't come up with 36 gold pieces for the snail—six chests with six coins each—your game is over. A number of people have found only 24, so here's a quick rundown on where to find them.

There's one chest in the Keep; one just below the abode of Barloom the dragon; one through the Pygmy Forest, upstairs and to the

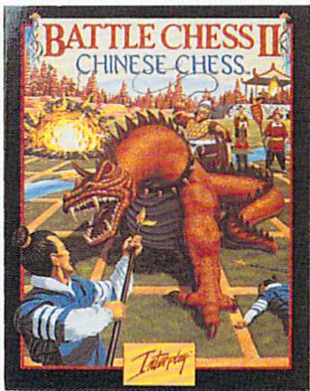
Continued on p. 72.

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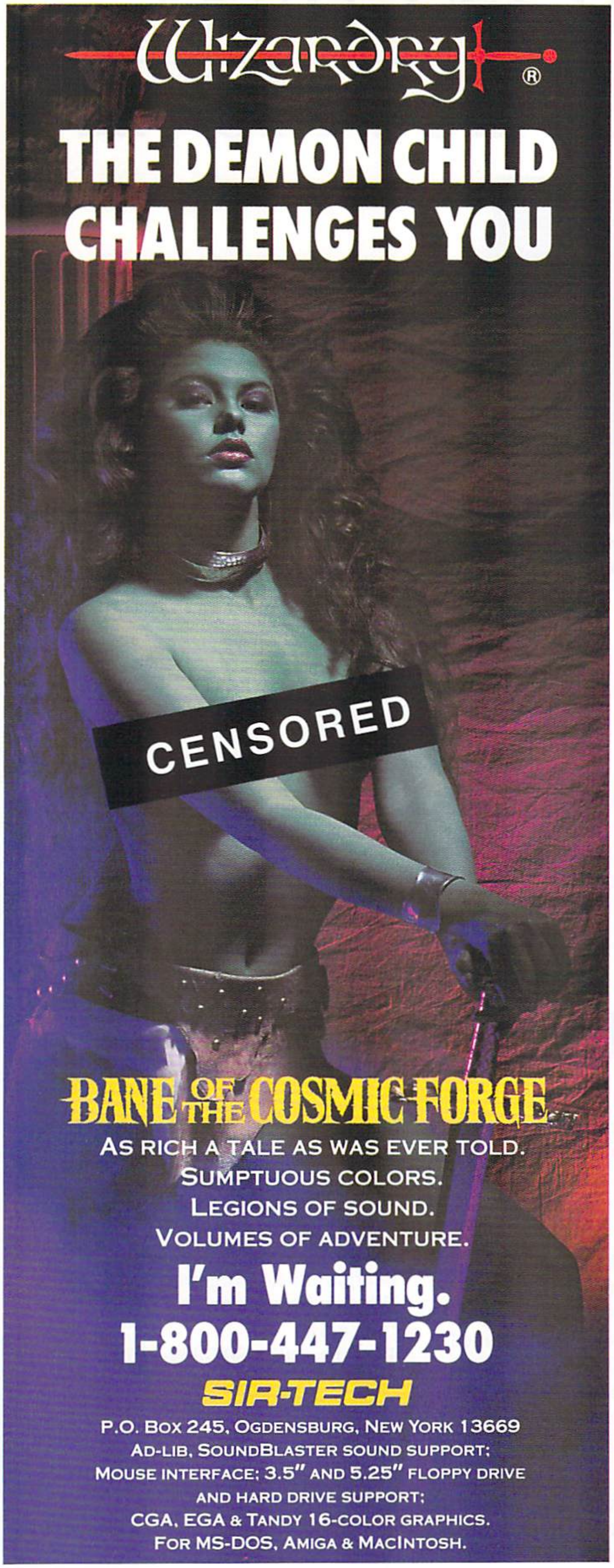
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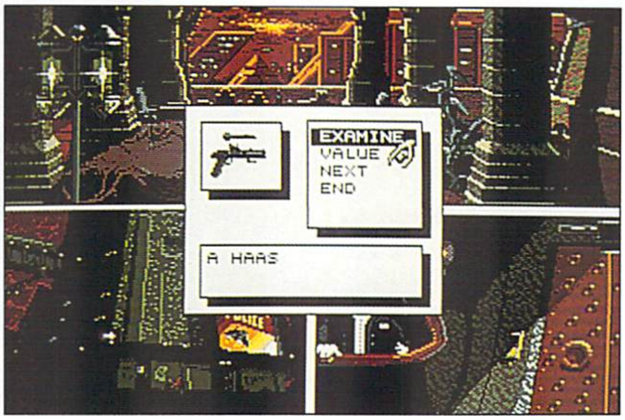
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graphic novel. Each new scene in the domed alien city of Terrapolis doesn't replace one before it, as in most adventures of this type, but is placed beside it in a new window.

city, there's a "dungeon" (an even more dangerous underground city) and a three-dimensional environment over Selenia's inhospitable desert, which you'll negotiate in a pilotable air-



Small scenes hide big surprises.

Looks can be deceiving, and BAT ($49.95) usually isn't that simple. For instance, you might think that these scenes—most of them small, but striking—were simply static backdrops until an animated, spidery robot wanders across the room, or a rocket takes off, or an elevator heads up the side of a building, or an alien ear twitches. It's a charming touch, if only window dressing, and it's only the beginning. You can hardly move your mouse pointer across a screen without it changing shape to show the range of actions available at a given spot: a cartoon bubble or talking head for discussion, a bottle for drinking, an arrow for a way out, and so on.

That fidgetiness of environment and a pleasantly high level of interactivity (there's almost always something to click on) go a long way toward making BAT great fun. There's also a lovely assortment of little toys to explore. You'll use telephones, food dispensers, a Simon-like arcade game and a four-function computer (named BOB) installed in your left forearm.

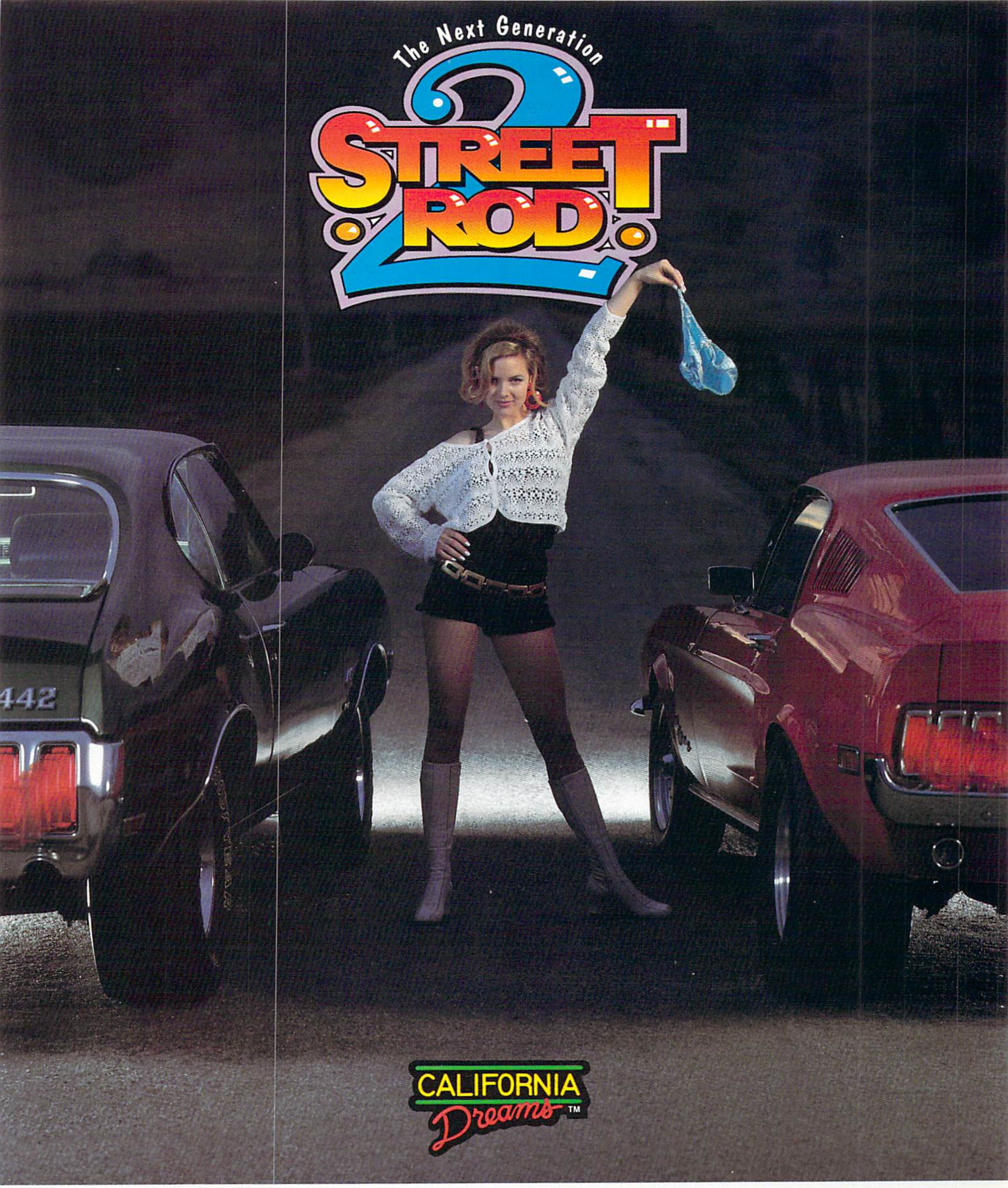
Once you've explored the

craft called a DRAG. Variety and acronyms are the spice of BAT.

The story is another James Bond variant: You're a secret agent, punching his one vague lead in an attempt to catch a mad scientist who is threatening to destroy the planet unless it's turned over to him in 10 days. You'll probably need BOB to get to him, and the Biodirectional Organic Bioputer is one of the little pleasures that makes BAT worth investigating. It's one of a scant few games to incorporate programming within the game, and the first I've seen to do so successfully. You can use a simple if-then language to create what are essentially complex macros.

Now, on the down side, it's difficult to finagle your way out of some screens, and Amiga-owners trained in left mouse button clicking may be frustrated to find that often this brings up BOB when you least want him. (Mouse placement needs to be quite precise.) Finally, as big and varied as this two-disk world is (and it's huge), the game sometimes has a confining feeling.

Continued on p. 68.



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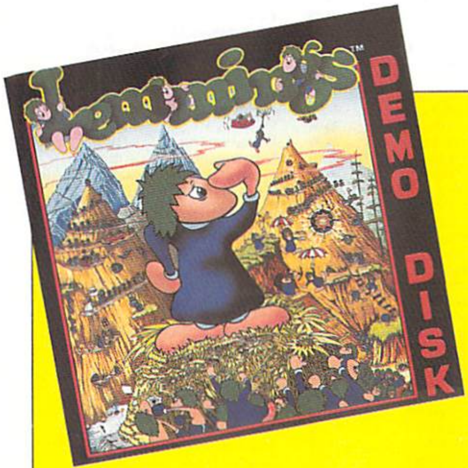
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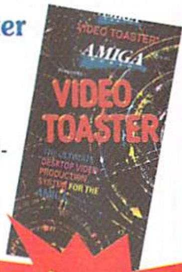


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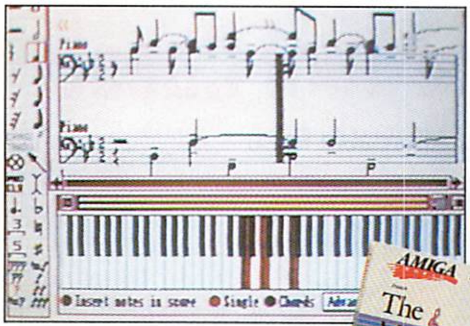
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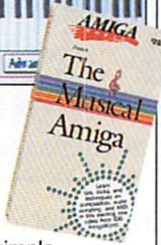
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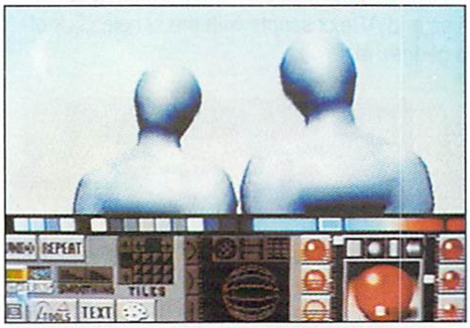
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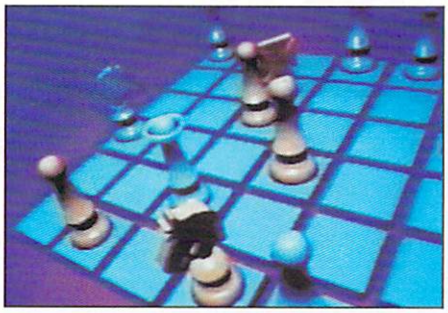
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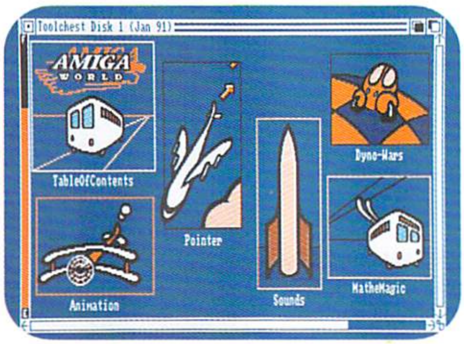


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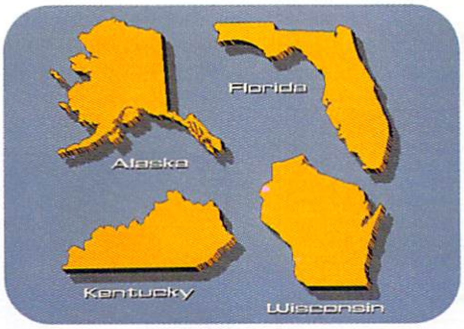
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#TC23. Create small windows from CLI scripts. Find the letter, file or program you misplaced on your drive. Play the strategic game of Dyno-Wars. MatheMagic lets you find the day of the week for any date in this century; provides the mean, standard deviation, skew and kurtosis for selected data; finds a polynomial to a set of XY data; and solves a set of algebraic equations. ■

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From p. 60.

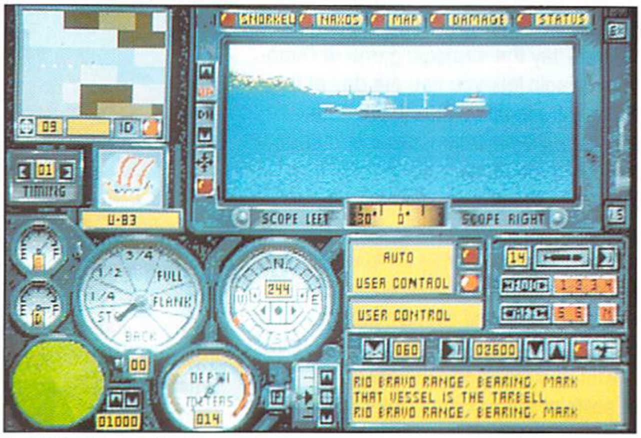
Communication is not BAT's strong point. You can ask nonplayer characters three set questions, plus the time, and their answers quickly grow repetitive. (The game could use a parser.) Combat is essentially a quick-draw. Some of the most enticingly elaborate scenes have disappointingly little interaction.

Nevertheless, I think this BAT flies. There's too much going on here to ignore.

WolfPack

By David T. McClellan

A solid World War II U-boat and convoy simulation game, WolfPack ($54.95, Broderbund) puts you at the helm over a long and dangerous campaign. You play the wolfpack commander (over several types of U-boats, including "Milk Cow" resupply subs) or the convoy commander (over merchant ships and destroyers) against the computer or a friend (with the computer handling the controls and scoring) in the opposing role.

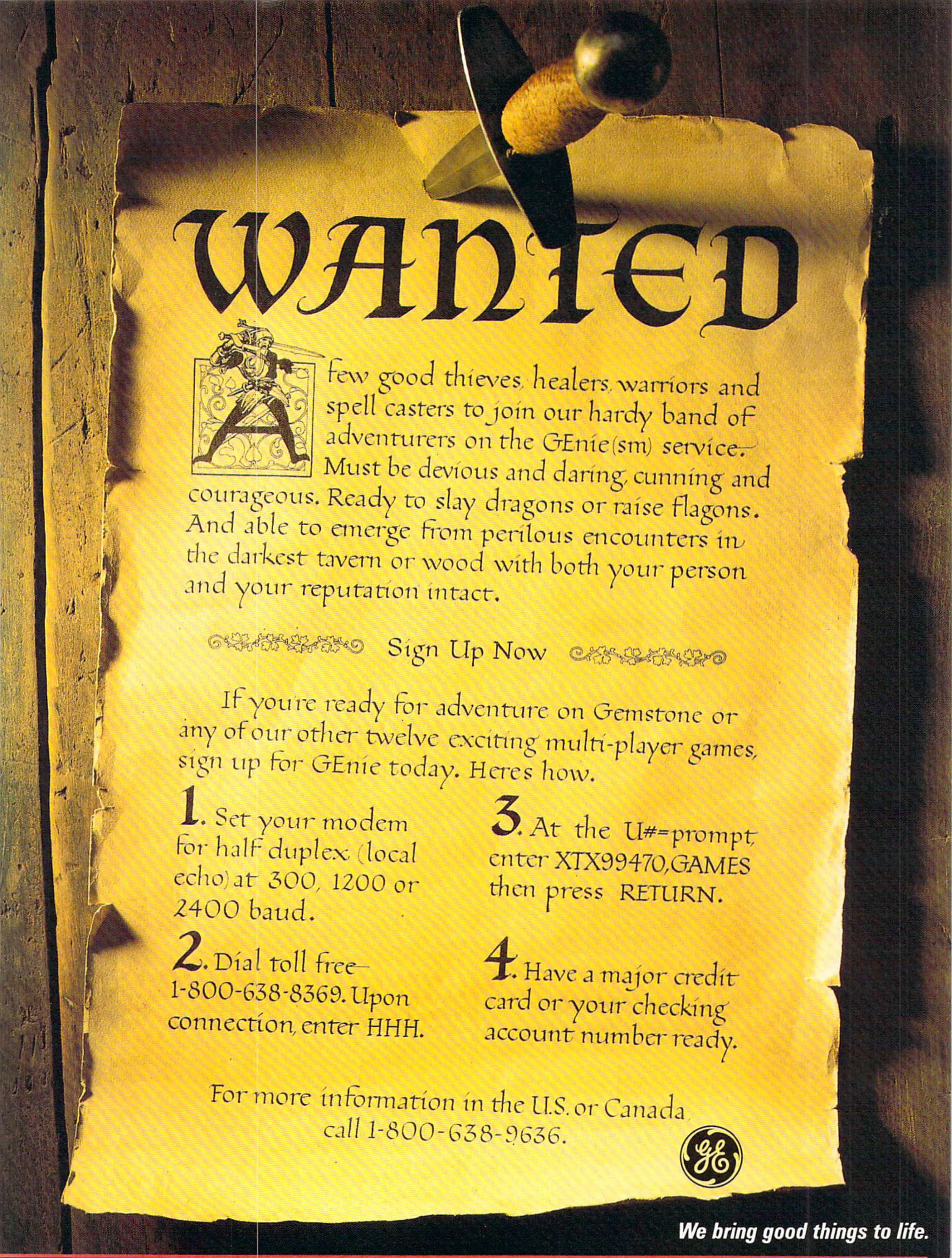


Just like the real thing, only drier.

A game runs to one of of four conclusions: a preset time limit runs out, some portion of the convoy makes it to its destination, or one or the other side is totally destroyed. You'll need a least one megabyte of RAM and several open evenings to play (with many beers and salami sandwiches for sustenance), but the game is definitely worth it.

The screen is a detailed view of a U-boat or destroyer control room. At hand on both U-boats and destroyers are engine-room telegraphs (speed), rudder and compass-heading displays and controls, a depth indicator, a pannable viewscreen or periscope, a tactical map (maintained by a yeoman), fuel indicators, gunnery and other weapon controls, an order/status log, a vessel ID (used for switching between vessels of your command), a hydrophone display, and vessel-specific controls. To enhance the realism, some of the controls and displays aren't available before given game-years. For example, hedgehog mortars weren't seen on destroyers until 1942.

When commanding a specific vessel, you can alter its course, speed, and depth (for U-boats); make ready and fire weapons, listen for enemy targets via hydrophone, sonar, or radar (and detect those looking for you); or give orders to the vessel's captain and ►



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shift to another vessel in your command. Orders include anchoring, patrolling an area (U-boat or destroyer), shadowing (U-boat shadows a surface vessel), and joining or leading a convoy (destroyer or merchant ship).

Both sides have a variety of captains for you to issue these orders to—some will follow orders blindly, some will adapt them conservatively to the situation, and some are blood-and-diesel warriors who will break orders to attack a target. Because you can directly control only one vessel of your fleet at a time, you'll need to tailor your strategy around your captains and what you expect the "other side" to do.

Situations can change quickly; game time can go from real time to 64 times faster, but combat is always real-time, and that's fast enough, given all you have to control and avoid. After you learn the controls and displays (handled via the mouse or keyboard), controlling a U-boat or destroyer becomes more natural, and your tactical and strategic mapping displays help you wage the war. It's great to sink enemies and watch your overall strategy come together as your other commanders carry out your orders while you move around.

WolfPack's manual is quite complete. It begins with a brief but interesting history of U-boat warfare from 1939 to 1944, and devotes chapters to overall game play, running U-boats, commanding destroyers and convoys, and designing missions. There are also sections describing the pre-designed set of a dozen missions which take place from the Caribbean to Iceland to Gibraltar, the captains and their personalities, the U-boat and destroyer types and capacities, and weapons and sensor capacities year-by-year. You'll need to keep the manual handy not only for the quick-reference chart of keyboard commands, but also because the game employs look-up copy protection.

I've been playing WolfPack for over a month, and the excitement hasn't worn off yet. If you like tactical simulation games, put this one on top of your stack. You'll reach for it often.

WARLORDS

By Peter Olafson

With both good looks *and* brains, Warlords ($50, Strategic Studies Group) is a princess among strategy games. A fantasy wargame, it pits you against any combination of up to seven friends or grumpy computer opponents (at four difficulty levels) in the conquest of the sprawling land of Illuria.

The basic idea is to take as many neutral cities as quickly as you can, and to gear their troop production toward subduing your opponents one at a time. Warlords is not quite a typical wargame, however, as it has some rather adventure-like elements. The heroes (scrappy armies in themselves) may search ruins and temples (little rooftop air-conditioning units) to find treasure, allies, and 14 magical artifacts that are handy in combat. Sages, and sometimes libraries, have useful information, as well. (Mind, this is rather like putting a quarter in a slot machine. You simply order the hero to search and are told the results.)

Warlords looks nice and sounds great. The map is large, colorful, and well-designed. The closeups of dif- ►

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ferent troops—griffins to cavalry to light infantry—provide even more flavor. The game is full of digitized sound effects, musical flourishes and cues, so you always know what's going on.

Even if you don't, it's simple to keep track. Several status screens show your position relative to those of your opponents. Commands are easily entered from pull-down menus or by clicking on buttons or the map. But be prepared: the computer opponents aren't the usual dopes. Leave a castle vacant, and they'll try to plant their own armies in it.

On the other hand, Warlords is rather slow on a 68000-equipped Amiga (it does run under 2.0). If you're well into a game and using the "observe" option to keep track of your opponents' moves, you can catch up on your reading between turns. Likewise, the screen scrolling is on the bumpy side, and there's a distinct pause between the issuing of a command and the computer's response.

While there are lots of features, some could use refinement. The save-anytime option is convenient, but it permits a save-and-then-attack technique that pretty much amounts to cheating. The ability to focus production from up to four cities at a fifth city is a handy way to automatically build up forces at a given point, but there's no "map" mode to show the full production network. You don't need to lead each army by the hand; if you simply click on the destination, it seems to find the path least costly in movement points. If the destination is more than one turn distant, however, it won't complete the trip. If Warlords is a princess, I guess this means she still has to have her nails done.

From p. 58.

left, and another up and to the right in this same general area; another in the Crystal Caverns; and the last on the route to the Karamoon Oasis.

Some folks are getting dumped into the sewers when the goblins raise the drawbridge in the caverns, and that means restarting. You can't get past the stone door when the bridge is going up, so get on the drawbridge as quickly as possible and kill the fellow who's running the winch. Once that's settled, take care of the other enemies and have a bash at the door.

Getting out of your cell should be simple if you've collected the booze from the Oasis. Give it to the guard. Once he conks out, use your mace on the door and do him in for a key. (You should also have found a key on your way in.)

Another common problem is finding the old man's ring. Well, the ring's not far away at this point. Just head up and to the left. On your way out, don't rush to be first. Stay a bit behind the prisoner—you *did* release the prisoner, right?—and the going should be a bit easier.

Other readers keep getting dumped in an acid pool (up and to the left of the starting point) when they push one of the two switches on the wall. Wrong switch! You can get the right one by saving the man who's being lifted away by a demon, and having a chat with him on that subject.

• I've also had a number of questions on the original *Shadow of the Beast* ($49.95)—typically complaints about the short life of the first enhanced weapon you find. If there's a trick here, it's simply not to waste good weapons on minor monsters, but save them for the colossi. Know where you're going, get there fast, and be sure you have the best weapon available. If you've made it to the graveyard, as several readers have, well, you're almost done. Just head right and beat on the giant's toe.

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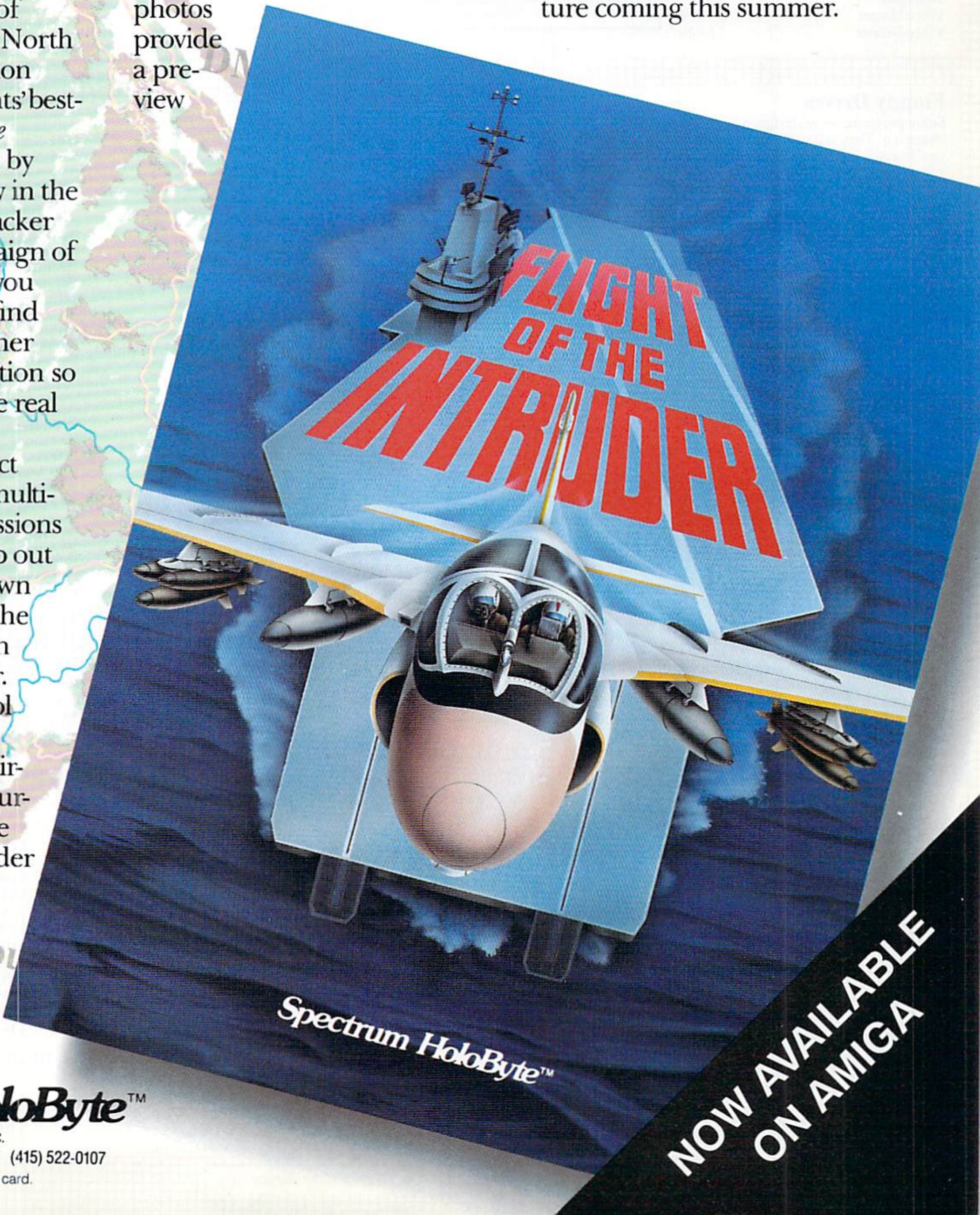

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From p. 18.
separate part. You then reassemble the entire object at the end. This works, but it takes some time.

In another vein, Imagine's quad-view is very versatile. By simply clicking on each of the four views, you can instantly make the image expand to fill the screen. The "fourth" view in hidden-line perspective is wonderful. There are, however, a few things about it that are hard to get used to. One minor aggravation is that the orientation of the x, y and z axes is not standard. Geometry classes and 3-D programs almost invariably have x as the horizontal axis, y as the vertical axis and z as the depth axis. Imagine makes z the vertical axis and y the depth axis. You just have to become accustomed to this variation on the norm.

With regard to the other three views, Imagine's tri-view is also a bit difficult to get used to if you're coming from the Sculpt camp. In general, most 3-D model-editing programs allow you to work in three views in isometric, non-hidden line perspective. It can, however, be quite difficult to work with. As your scene becomes more and more complex, you can easily lose track of where you are, and quite often the lines on the screen can play tricks on you.

Sculpt provides both a place marker and a secondary pointer to help keep track of things as you work. It also allows you to work on a limited area without other background or foreground objects getting in your way. With Imagine, however, all of the three views are to infinity, so that the whole object may appear big as life in one view, but be completely out of the other two views.

There are times when seeing to infinity in a view might be valuable—if you had a long row of small things to line up, for example—but in most cases, a more limited view is preferable. It would be ideal if you could toggle between the two.

Imagine does have a Hide Points mode that addresses the problem of confusion of overlapping objects, but you first have to zoom way out and hide *everything* so that all three of your views will be clear of other points. After editing that small area, if you then want to work on some other confined region that is now hidden, you must reveal all the points, zoom out, and hide everything again.

Much as I gripe about these few things, Imagine is on the whole the most comprehensive 3-D program I have yet seen for the Amiga. With many of its difficulties, it is simply a matter of getting used to a new way of doing things. In addition, it's nice to know that Imagine is a living, breathing program (unlike Sculpt) and that Impulse is firmly behind the Amiga and will support it with upgrades for some time to come. Imagine is a great new member of my 3-D team, and I have a feeling that there is yet a lot more for me to discover here.

YOUR TURN!

So far, I have found that Imagine is a major improvement over Turbo Silver in the areas of user interface and animation support. It retains Turbo Silver's superb control over surface characteristics and beautiful rendering capabilities. The only remaining weakness is the documentation, which is still not as good as it should be for a product of this complexity. Impulse somewhat makes up for this by providing very good telephone support.

Overall, I am very impressed with Imagine, and I relish every opportunity I have to work and play with it.

Fred Petty
Florissant, Missouri

IMAGEFINDER

One picture is worth a thousand instructions.

By Michael Hanish

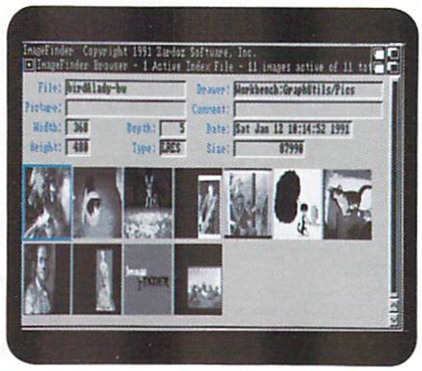
ANYONE WHO WORKS with Amiga graphics in any way has probably at one time or another been desperate to find where, among all his storage disks, is that one picture he needs. ImageFinder, a specialized database for indexing and sorting pictures, is designed for just such an occasion.

ImageFinder ($65), from ***Zardoz Software***, analyzes any Amiga bit-mapped graphic file you throw at it, in any resolution or screen format and at any depth from 1 to 24 bit planes—even a specified frame of an animation. It will sift through a list of directories and/or disks and give you a neatly displayed visual database (index), with a small thumbnail icon for each image. With the database open, you can sort the pictures by any number of criteria, display the full image (using the viewer program provided), and multitask with a paint or image-processing program. Virtually all the parameters of the program's operation are user configurable.

You can load ImageFinder from Workbench or configure it within your startup sequence for execution during the initial boot. It resides politely in the background until you activate it with a hot-key combination. When you select one of the thumbnails on the main, or Browser screen, the image's "vital statistics" are displayed in the parameter boxes at the top of the screen. These include file size and format, depth in bit planes, date created, color-sorting information and comment. (You can append a comment to a graphic file, however, only by using the AmigaDOS Filenote command. I would prefer to do it from within the program.)

GETTING AROUND

Using one of two configurable hot-key combinations, you can invoke a number of other quick and useful actions directly from ImageFinder's Browser screen. If you press the Shift key and click on a thumbnail image, ImageFinder displays the corresponding full-size picture—as long as it is present within the system. ImageFinder



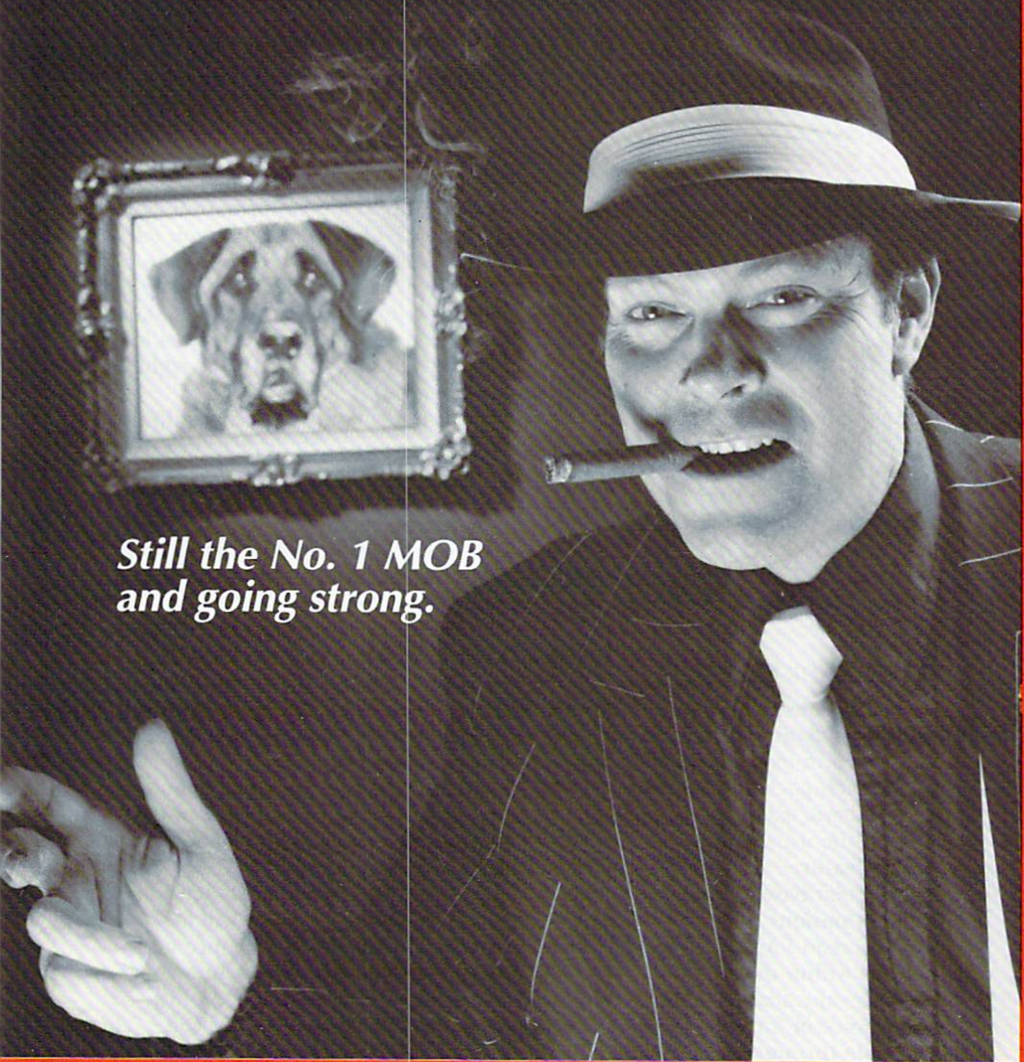
Your images cannot hide from ImageFinder.

includes a fast and compact display program called "IView" specifically for this purpose. Other hot-key combinations bring the Browser window to the front or insert the name of the currently selected file into another program's open requester.

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thumbnail, reduction method, number of colors). The scan begins automatically and continues until ImageFinder searches and analyzes all the specified locations—or until aborted. You can add to or delete images from an index with the same ease.

The time an analysis takes depends on the thumbnail parameters, the size and complexity of the file, and whether or not you have an accelerated system. From my hard disk, I fed ImageFinder a directory of eleven pictures of mixed format, complexity, and number of colors, and it took 25 minutes to build an index using the stock processor. The same process took about five minutes when the system was in 68030 mode. The program certainly does not feel sluggish in any way; it just benefits greatly from an accelerator.

Sorting is a straightforward process. The program sorts for two distinct purposes: to set the order in which the thumbnails are displayed, or to select a smaller group of images from the index. You control the sort through three sort requesters (one each for sort by file information, picture specifications, or color). This, by the way, happens at blinding speed.

ImageFinder has an ARexx port and is able to launch commands through a simple selection from a pull-down menu. This makes it quite feasible to use the program as the visual front end for more complex and less graphically oriented applications, such as catalogs or information services.

The program comes on one nonprotected disk, installs easily on a hard disk, and works smoothly under Workbench 2.0. The manual is excellent, explaining the program's setup and functions clearly and thoroughly. It not only tells you what the program can do and how to do it, but it also gives pros and cons for choosing different options. A good index would be very helpful, however. When I came across a couple of things in the program that didn't seem clear in the manual, I got quick and direct help from the company's technical support.

I wholeheartedly recommend ImageFinder to anyone who works with graphics. It not only successfully tracks stored images, but working with it is like using a tool that is so well designed you forget you are holding it.



YOUR TURN!

Once in a great while, a program comes along that fulfills its promise—and then some. ImageFinder is a most extraordinarily flexible and ingenious program that removes the drudgery and disorder from dealing with picture files. It is visually interesting and fun to use, as well.

Barry Voroba
Minneapolis, Minn.

TransWrite
QuickWrite

For turning a phrase or two. . .

By Loren Lovhaug, with Frank Hudson

WHERE IS IT written that decent word-processing software has to be expensive or require a computer whose characteristics are measured in megabytes and MIPS? TransWrite ($69.95), the latest upgrade of Transcript from ***Gold Disk***, and ***New Horizons***' QuickWrite ($75), modeled after ProWrite, are out to prove that you can get good productivity value for small change.

Where's the Catch?

Any savvy consumer would naturally be curious about what features might be omitted in exchange for the low cost of each package. While both contain the basic text-editing features, some of the usual Amiga word-processing features are missing. Neither of these text-based programs contains graphics options to print bitmapped Amiga screen fonts or to include IFF pictures within documents.

Besides the absent graphics options, your choice of fonts is limited to those accessible through Preferences, which means no support for proportional fonts like those found in laser printers. Both programs, however, do a good job of controlling the various pitches of fixed-spaced draft and near-letter-quality modes found in dot-matrix printers. Unfortunately, neither allows complex formatting, such as multiple columns of text, footnotes, or interactive table editing.

Because neither TransWrite nor QuickWrite are burdened with lots of bells and whistles, both products run well on modest Amiga systems (512K). They do not require hard disks; in fact, since each comes on a Workbench disk, you can use them on a single-drive Amiga. These products are excellent candidates for multitasking with other applications, especially (by design) with Professional Page (Gold Disk). In addition, because they are text-based rather than graphics-based, it's quick and easy to enter text, even into the middle of large documents with multiple tasks running on an unexpanded Amiga 500.

Parting Company

Despite all of their similarities, TransWrite and QuickWrite are two very divergent products. The key differences lie in their interfaces and approaches to formatting documents. TransWrite is a post-formatted word processor. This means that you tell TransWrite how to control the appearance of your document by adding short mnemonic codes that stand for various formatting directives (e.g., LM for left margin or JR for right justification).

These formatting directives do not affect the on-screen appearance of the text until you print your document (or review it in Preview mode). What you see on screen as you enter and edit text are simply your paragraphs with the text wrapping to the next line unless you signal the end of a paragraph (by pressing the Return key) or reach the right edge of the window. If you resize the window, the text is then automatically adjusted so that each line wraps at the right edge of the window.

TransWrite shows text attributes such as boldface, italics, and underlining on the screen. There is also a noneditable, but fast and accurate, screen Preview mode that quickly lets you see how your document will look when printed. One other nice addition is a scrollable, formatting-codes requester that reminds you of the purpose of each formatting code. This allows you to select and insert a code at the beginning of a paragraph by clicking on that directive with the mouse.

QuickWrite, on the other hand, employs a more contemporary approach: When you enter text, the program formats it as you type according to the margins and justification settings currently in effect. You can alter settings via conventional ruler gadgets, ►

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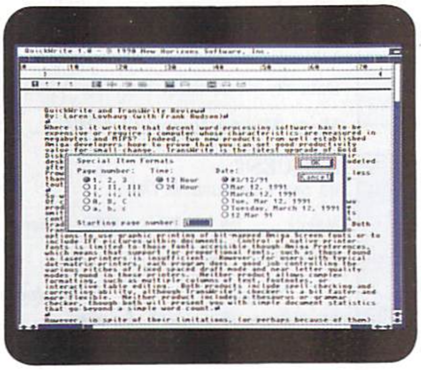
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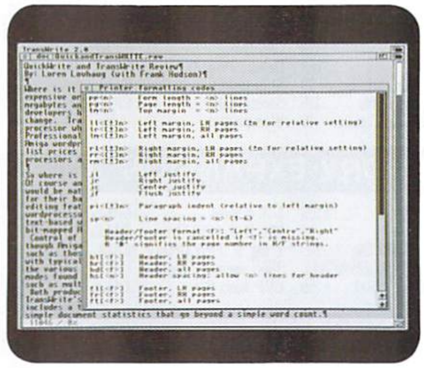
pull-down menus, or keyboard shortcuts.

As with TransWrite, QuickWrite displays text attributes such as boldface and italics on screen. Unfortunately, there does not seem to be any way to change text character pitch from inside a QuickWrite document, so you cannot mix pitches within a document.

Unlike TransWrite, page breaks are visible while you edit your text, as are headers and footers. Again, these factors make QuickWrite quite a bit easier to learn and use than TransWrite, because all of your text appears the same on screen as it does on paper.

Although TransWrite is more difficult to learn and use for traditional text formatting and word processing, some advanced and specialized users may prefer it. Despite its spartan appearance, TransWrite has a number of specialty features that make it ideal as a preproduction tool for importing, manipulating, and cleaning up text taken from other sources. For instance, TransWrite's method for dealing with carriage returns and end-of-line characters (a constant scourge of telecommunications and MS-DOS file exchange) is the best found in any Amiga application.

TransWrite's external spell-checking module, which takes advantage of the Amiga's multitasking ability, is not only capable of checking documents on screen (a "real-time," as-you-type option), but also batch-checks files on disk. The program accepts technical or proprietary terms as corrections during a spelling check, although the



Your wishes are TransWrite's commands.

dictionary does not recognize common contractions.

TransWrite features mail merge, file encryption and decryption for security purposes, and a complete indexing system. Search-and-replace operations are quick—a typical advantage of post-formatted word processors—because the document does not need to be reformatted after each replacement.

Another interesting feature, the automatic text-translation facility, lets ►

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AW Shucks!

Item: In last month's article, "The State of 3-D Art," the sidebar on p. 30 featured four screen photos: images rendered by each of the four 3-D packages we covered. Unfortunately, three of the photos were mispositioned with respect to the captions. The picture in the upper left belongs with the LightWave 3D caption, the upper-right photo was actually rendered by Imagine, and the lower-left image is 3D Professional's output. We apologize for the confusion.

Item: In our May review of Magneto/Optical Drives (p. 12), the price of the Ricoh MO9200E was erroneously stated to be $1199. The list price is actually $4199.

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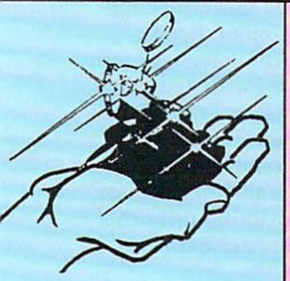
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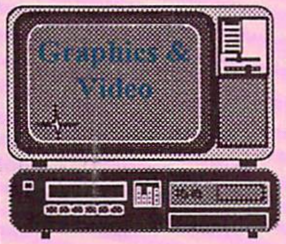
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you define multiple translation tables for abbreviations for text or formatting controls. In essence, this feature works like a super batch search-and-replace mode, offering a great deal of potential for defining style sheets and shorthand text entry.

TransWrite is also the first Amiga word processor besides WordPerfect to handle a common nonAmiga word-processor format. It can import and export MS-DOS WordPerfect 4.2 and 5.1 files, as well as Amiga WordPerfect 4.1 files. While the WordPerfect files reside in TransWrite, they show little of the formatting they may have received in WordPerfect. Features that TransWrite does not support, such as table, graphics, and footnotes, are simply not shown at all, which prevents them from being unintentionally modified. There is, however, one serious design flaw to this approach. Although you cannot alter the WordPerfect codes, you can accidentally and unintentionally delete them.

To QuickWrite's credit, it has a few unique features of its own, such as automatically inserting time and date information in a variety of predefined formats. It also has a special page-count feature that allows you to automatically express page numbering in terms of the size of the entire document. For instance, the second page of a document would be expressed as "Page 2 of 10." In addition, QuickWrite includes a very easy-to-use mail-merge facility.

Oddly enough, when it comes to macro support, QuickWrite and TransWrite swap roles somewhat. QuickWrite features a full ARexx port that gives it a great deal of power and potential—provided you take the time to learn how to program ARexx. Conversely, TransWrite's macro facility uses a simple record-and-playback scheme to assign key presses and command invocations (either Amiga key combinations or pull-down menu selections) to function keys. The record-and-playback scheme is much simpler, but is far less powerful than the ARexx implementation that QuickWrite utilizes.

THE FINAL WORD

In conclusion, both TransWrite and QuickWrite are low-cost, capable word processors that I can highly recommend, but to two entirely different sets of users. Those looking for a word-processing package that is straightforward, easy to use, and quick to handle traditional text-formatting chores, ought to choose QuickWrite. There is simply no better program for beginners or people with simple requirements who want to get up and running right away.

TransWrite, on the other hand, offers a great deal for telecommunicators, desktop publishers, editors and writers, because of its powerful capability to meet their unique needs. While only people who have had past experience with post-formatted word processors will truly like TransWrite's approach to document formatting, the package really comes into its own when serving as a writer's text editor, divorced from the printing tasks that most word processors are expected to handle. ■

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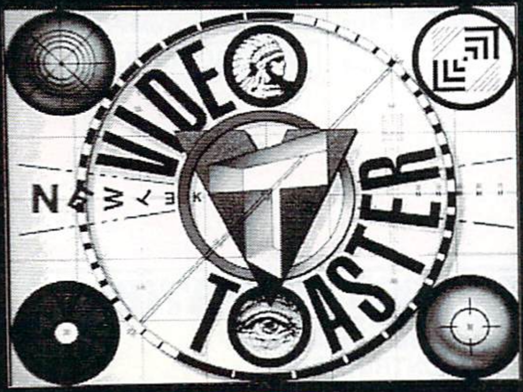
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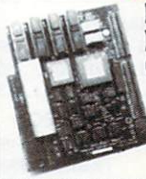
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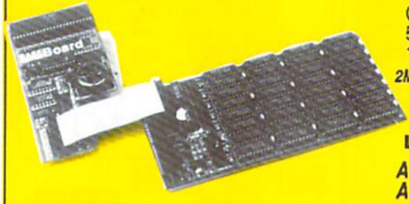
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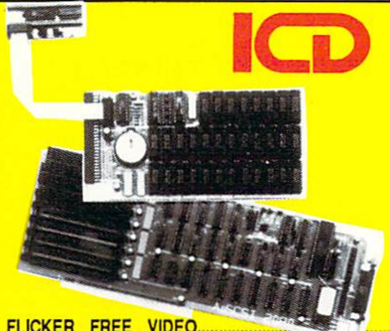
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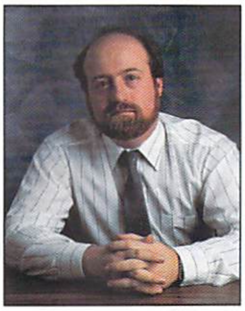
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HELP KEY

Whether it's palette problems, sidecars or inexpensive graphic devices, Lou comes up with solutions.

By Louis R. Wallace

Palette Pitfalls

Q: *I've been working on a project in which I rendered a series of images in HAM mode using Sculpt 3D. I converted them all to 32-color mode using Deluxe Photolab, then imported them into Deluxe-Paint III to create an animation. The problem is that they do not all have the same palette! This makes the animation take on the color palette of the last-loaded frame, producing a useless animation. Could I have done anything differently while rendering that would have avoided this problem, or have I just wasted untold hours?*

M. Sherbine
Ridgecrest, Calif.

A: The problem obviously is that Sculpt created each frame with the best possible palette of colors and didn't use the same palette for each frame. Remember that while HAM mode allows a display that uses all 4096 colors at once, it does have its own palette of sixteen unique colors. These sixteen can be placed alongside each other without resorting to the hold-and-modify technique used for the other 4080 colors. During the creation of the image, Sculpt determines which sixteen colors will best serve the needs of the picture, and it creates the sixteen-color palette from that selection. Since you saved each image as a separate file, Sculpt repeated this process for each picture, resulting in images with different palettes. The reason this doesn't happen when you create an animation directly with Sculpt is because it determines the best palette for *all* the images and uses that palette for each frame.

No, your work isn't necessarily ruined. There are a couple of approaches to fixing the problem. One is to use The Animation Station (Progressive Peripherals & Software), which allows you to combine different animations or images into a single animation, optimizing the palette to one that will work best for all the images. Another is to use an image-processing program like Art Department Professional (ASDG) to alter the images so that each has a consistent palette.

Ride in a Sidecar?

Q: *We purchased the Amiga 1000 in 1985 and since that time we have been having an increasingly difficult time finding software for it. We have heard of a "sidecar" that can be used to update the A1000 so it will be more compatible with programs. Would this help us? If so, is it available? The programs we need to use are spreadsheets, graphing and mailing-list software, and even Lotus 123. What can we do?*

S. Honeycutt
Reno, Nevada

A: Whew! It's been a long time since I have heard of the Amiga Sidecar. This was a Commodore expansion box that was developed around 1986 to fulfill two functions. One was to serve as a RAM expansion box, and the other was to offer some form of IBM compatibility in hardware. The product, as far as I know, never shipped in the US, although it did in Canada. I don't believe it is possible to buy one any longer, unless you could find it used.

As for software compatibility, the A1000 is capable of running nearly every piece of software available for the Amiga line of computers. Of course, you must have the proper version of the operating system (usually 1.3), but that is available for the A1000 as well as the A500 and A2000. If you want to make your A1000 hardware more compatible with A2000 hardware products, you could add the Rejuvenator.

Most of the kinds of software you mentioned are available for the Amiga. If you can't find a dealer near you that carries Amiga software, take a look at the mail-order companies who advertise here in *AmigaWorld*. As for Lotus 123, it is an MS-DOS-based software package that is currently not available for the Amiga (although it *can* be used on Amiga 500, 2000 or 3000 computers with the proper MS-DOS hardware emulator).

Low-Cost Color

Q: *I have been experimenting with animation on my Amiga 500 and have become really impressed. Recently, however, a friend of mine showed me some very nice animations on his Mac II that used 256 colors at once. I've heard that there are several new third-party graphic devices out now (or due soon) for the Amiga, but I understand that they all require some very expensive video hardware in order to be used for animations. Is there anyone offering or planning Amiga graphic cards that will allow those of us with smaller wallets to animate in higher resolutions (and more colors)?*

J. Willabee
Fort Worth, Texas

A: There certainly is a very effective solution available. It is DCTV (Digital Creations), a fairly inexpensive (under $500) NTSC display device that allows you to create full-color images and animations using any of 16 million colors. DCTV comes with a powerful paint program as well as digitizing software, so you can scan images in from any still video source, and then edit them with the paint program.

The images can be saved as IFF24 (24-bit IFF image files) or in a proprietary DCTV format that results in a much smaller file. Because it can read in and display 24-bit files saved as IFF24, DCTV is a perfect companion to animation software like Imagine (Impulse), 3DPro (Progressive Peripherals & Software) or even the Video Toaster's LightWave (NewTek).

DCTV can also be used to play real-time animations created by combining DCTV images using existing Amiga software. (To the Amiga, DCTV images are merely high-resolution pictures.) In fact, this DCTV technique was used by IVS at the recent *AmigaWorld* Expo in New York to play digitized movies from a hard disk. ■

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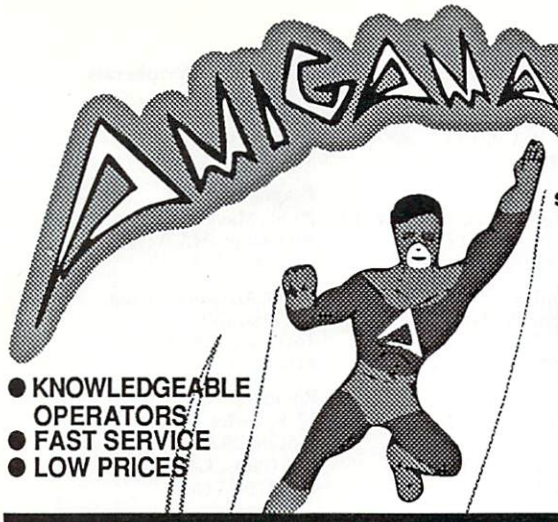
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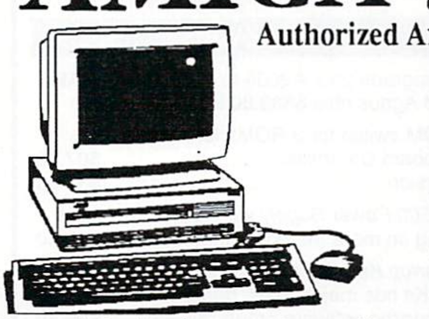
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DD79abcd: Amiga C Programming Tutorial - This is the most comprehensive C language, Amiga orientated set of tutorials available. Includes full working examples, source code and an incredible set of lessons. Included are full discussions and examples of mostAmiga programming topics. Four disk set, counts as three.

New Disks

FD55:Puzzles - Contains TripleYatz, a multiplayer, multigame yatzee clone. Also BoomSquad, an .info best of PD Pick (#39,pg 45), Adventure, Logic, and Mosaic; four very good strategy games.
FD56: Arcade - Includes SpaceWar, an .info "Best of PD" pick (#39, pg 45), HueyRaid a well done helicopter arcade game, and Game - a "GameBoy" emulator with a version of Tetris.
WB87: New Testament - Contains the entire text of the New Testament in a well thought out user interface. 1mb suggested.
WB88abc: The Complete Bible - A three disk set, with the entire text of the New Testament and Torah (Old Testament) includes wb87. 1mb suggested.
WB89:Education- Fish, not your everyday electric eel, but a fun to experiment with simulated fish aquarium. Also contains a well done math quizzer, history, religion, geography and more.
WB90: Rippers, Strippers and Beats - For the Amiga music enthusiast, this disk contains many programs designed strip music from your favorite games and programs. Music can then be played with your favorite PD Music program. Also contains Drums, a very nice drum machine. This disk does require moderate knowledge of the CLI.
WB91:AV Educational - Flags of Europe, beautifully presents all of the flags of Europe along with maps and geographic statistics of the countries. Requires AV.

Other Great Disks!

FD5: Tactical Games - BullRun - a Civil war battle game, Metro - you play the role of a city planner. Build wisely and your system will be a success, but poor planning will lead to disaster and financial ruin. Very very habit forming.
FD6: GAMES! - This disk is chock full of games including; Checkers, Clue, Gold - A new slide the pieces puzzle, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.
FD7: PACMAN - This disk contains several pacman type games including; PacMan87, MazMan and Zonix.
FD9: Moria -. This has great graphic controls, multiple spells, similar to Larn and Hack. Play time several weeks!
FD10: HackLite - A dungeon adventure game. Considered a must-have classic. This is the second release of this game on the Amiga. Great Amiga graphic interface. Play time several weeks!
FD11: Las Vegas and Card Games - Las Vegas Craps - The best Las Vegas Craps simulation every written for any computer. Contains extensive HELP features, Also Thirty-One,VideoPoker and more.
FD12A,FD12B: Star Trek, The Game - This is by far the best Star Trek game ever written for any computer. It features mouse control, good graphics, digitized sound effects and great gameplay. Counts as 2 disks. Req. 1Mb and two drives (or hd).
FD13: Board Games - contains multiplayer Monopoly, Dominoes, Paranoids, and others.
FD14: Dungeon Master Hints and Arcade Games - DM maps, spells, item location, and hints and more, also on this disk, Hball - an arkanoid/breakout type game, Trix - a Qix type clone.
FD17: Educational Games - This disk includes several games for the younger members including geography, math, science, and word games, also includes Wheel of Fortune.
FD20: Tactical Games - MechForce(3.72); A game that simulates combat between two or more giant, robot-like machines. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim.
FD26:Arcade Games - Marble_slide, this is a truly commercial quality game. Similar to a Lucas game named PipeDreams, excellent playability and entertainment, Mutants , a small version of the arcade game of the same name, also SuperBreakout a pong/arkanoids type game.
FD27: Arcade Games - This disk is loaded with some great games. Includes, Raceorama a great racing car game with ten different courses, MiniBlast a helicopter gunship type clone, Shark in the same class as froger, and SBreakout the original breakout with more.
FD29: Shoot'em up's - WWII - you're the pilot of a WWII plane flying through enemy territory, you've just been spotted, good luck on you mission, SpKiller - try and penetrate enemy lines with this game, and Retaliator - another great game.
FD31: Games! - Air Traffic Control - a good ATC simulation game, Black Jack Lab - a full featured set of card games, ChessTel - play chess with your friend in distant and remote places with this game and a modem, labyrnth - a well done text adventure game (like an infocom game), and MouseTrap - a 3d maze game.
FD32:Flight Simulator - Includes an instrument flight simulator for a DC10.
FD33: Arcade Games - Ffreddy a mario brothers type of game, Gerbils a target practice game, PipeLine a German interpretation of Pipe Dreams, Tron a light cycles version, and wetroids a wonderful version of asteroids with a hilarious twist.
FD34: Games - Includes WellTrix a derivative of the addictive game of tetris, and new version of BackGammon. Also included are several new "Schwabie type Hacks".
FD35 Omega (v 1.3) - A new outstanding dungeon and outdoors adventure game in a similar vein as hack, rouge, and moria. This version is considerably faster and better that all previous versions. Play time several weeks or months.
FD37a & b:Tactical Games - Empire (2.2w) This great game comes highly recommended. With a full-featured graphic front end.
FD38:Games - Cribbage Master - A great cribbage game and tutor, Spades - a well done card came, ChineseCheckers - A computer version of this classic, Puzz - a slide piece puzzle game and construction set.
FD39a & b:Tobias Star Trek - This is a new, completely different version of Star Trek than that found on FD12. This one was created by the German author Tobias. Now with English instructions. Very Excellent!!! Counts as two disks. Requires 512k memory, a 500, 2000 or Pal.
FD40:Arcade - MiddleEast - a timely arcade game of death and destruction set in Iraq, BackToTheFutureII - a very playable demo version of this soon to be released commercial game, City - a missile command clone.
FD41:Games - Includes Capital Gains - a stock market game, Ball a Arknoids type of clone with many great twists, and Desert Shield - a search and destroy conquer theme.
FD42:Games - Includes SpaceWar3 - a remake of this original Amiga classic, Trippin - a fascinating board game of intrigue, strategy, and player manipulation, Dominion - an engrossing strategy game of galactic war and conquest, Frog - a frogger type clone, and Mines - a very good strategy board game.
FD44: Game - Mechfight is an out of this world role-playing adventure comparable to hack and moria. The setting, interplanetary colonies and space stations. In your quest to explore the world, take time out to liberate bad guys of their most valuable possessions, engage in a mortal combat or two against robots and alien life forms, pick up a new amiga 9000. Most of all, don't forget to stay alive...
FD45: Arcade - Three good shoot'em ups. Batman - save the city from the Joker, DriveWar - gangsters are moving in on your territory, stop them at all costs, Web - a spidery, buggy affair of eat or be eaten.
FD47: Arcade Games - Contains DownHill - a demanding computer slalom ski game, MicroPac - a Workbench mini-pacman game, CrackOut - a break out clone, Jet - a superb aerial dogfight game, AmegaRace - an interesting asteroids type of game, and WindyDay - a unique arcade shoot'em up.
FD49:Chaos Cheats - This disk contains an everything you wanted to know about cheat set for Chaos Strikes Back, including full maps, spells, object locations, super characters and more.
FD50: Submarine Game - Sealance, one and a half years in the making, this is an outstanding submarine tactical game. Commercial quality, highly recommended.
FD51: Games - DesertStorm a fast action arcade game, Amigatraion a well done concentration game, Chute a parachute jumping game, Running a dungeon adventure game similar to Wanderer, and Solix a solitary card game.
FD52: Classics Games - PetersQuest a well done Mario brothers type of game, Jymbc a two player missile command clone, and Vstank a tank commander game.
FD53: Great Arcade - On this disk is a wonderful implementation of the ever popular classic arcade game Defender. Also contain Air Race a WWII flying ace arcade game, and Psycoblast new creation idea game.
FD54: FoodFight - Contains Galactic FoodFight, a wacky spaced out arcade game loaded with shooting ketchup, and hamburger eating monsters, and flying pizzas.
WB2: General Interest - contains, Galaxy a program that represents the collision of two galaxies, Larn - an adventure/action game similar in concept to rogue or hack, but with a much different feel. Try it, you'll like it!, StarChart - a program that lets you display and identify about 600 stars, galaxies and nebulae visible in the Northern hemisphere.
WB4:Telecommumnication - This disk contains several excellent pd communication programs designed to get you on line quickly and easily, Access (1.42) - A very nice ANSI term program based on Comm v1.34, but with the addition of transfer protocols, Comm (1.34) - Last version of one of the best public domain communications programs ever made on the Amiga, Handshake (2.12a) Handshake is a Full featured VT52/100/102/220
WB5 - Fonts #1- Several fonts (35) for the Amiga, also included are five PageStream fonts,and ShowFont - a font display program.
WB6: Video Fonts #2 - ShowFont(4.0) This program allows you to quickly and painlessly view all 256 characters in a typical font. Large AmigaDos system fonts (many up to 56pts).
WB7: Clip Art - This disk is loaded with black and white clip art. Art includes, trees, watches, tools, US and State maps, and more.
WB9:Icons - Truly a multitude of various types and kinds. Also includes IconMiester, IconLab, and others great utilities to help generate icons.
WB10:Virus Killers - The latest and best VirusX(4.0), Kv(2.1), and ZeroVirus(1.3).
WB11: Business - Clerk(4.0), finally a full featured business accounting PD program for the small to medium company. Includes receivables, payables, end of month and much much more.
WB12: Disk Utilities - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and file recovery archive and organizing, and all sorts of file manipulation. A real must have!
WB13: Printer Drivers and Generator - over 70 different drivers, and if these don't do it, with PrtDrvGen you can make your own.
WB14: Video- on this disk are several utilities for the video enthusiast. We have included multiple slates, video titling, Bars and Tone, Gray Scale, Screen fades and swipes, Interlace toggles, and SMPTE Calculators .Also on this disk is a full featured video cataloging program.
WB15: Business - This disk contains a spreadsheet, a database, a project/time management program and financial analysis (stocks).
WB16: Business - This disk contains an inventory manager, a loan analysis program, a great calendar/scheduler, a rolodex program, and pennywise a good "Cash Book" accounting for home or office.
WB18: Word/Text Processors - This disk contains the best editors. Includes,TextPlus (v2.2e) a full featured word processor, Dme(v1.35) a great programmers editor with strong macro features,TexED(v2.8) an enhanced Emacs type editor, and a spell checker.
WB20: General Interest - DiskSalv V1.42 a disk recovery program for all Amiga file systems, FixDisk V1.0 another file recovery program with features DiskSalv doesn't have, 3DLookt gives a 3D appearance to your WorkBench, Clean V1.01 a program to de-fragment memory, Tracer - trace any part of an image.
WB22: Fonts #3 - Several more great fonts. These, like the other font disks work great with Dpaint and WYSIWYG word processors.
WB23: Graphics and Plotting - Plot (20b) a three dimensional mathematical function plotter. Can plot any user defined function, BezSurf2 - produce awesome pictures of objects one could turn on a lathe. Can also map iff image files onto any surface that it can draw. Now compatible with most 3D packages, and VScreen - makes a virtual screen anywhere, great for DTP .
WB24:Animation and Paint - On this disk, DA a complete commercial quality cell orientated animation package. Movie an "ANIM" player for standard animation. QuickFlix an IFF slide show and cell animation program. Also on this disk are two PD paint programs of good quality.
WB25:Educational - On this disk are two programs that can generate maps of differing types, World Data Base uses the CIA's data base to generate detailed maps of any entered user global coordinates. Also Paradox a great demonstration of Albert Einstein General Theory of Relativity.
WB26: Disk Utilities #2 - MrBackup, KwickBackup - two well done utilities to help with harddisk and floppy disk backups, FileMast - a binary file editor, Labelprinter - Disk label printer with very powerful features.
WB27: Nagel - 26 Patrick Nagel pictures of beautiful women.
WB29: Graphics and Sound - This disk has several different Mandelbrot type programs for generating stunning graphics. Includes, MandelMountains - a realistic terrain generator, Fracgen - generated recursive fractals from user input, Mandelbrot and Tmandel - two fast mandelbrot generators, also Mostra - the best IFF display program to date, will display ALL IFF's including Dynamic HAM, and Sound - a great IFF sound player, will play anything. Try this disk, you'll love it!
WB33:Circuit Board Design - several terrific routines for the electronic enthusiast, Including PCBtool - a circuit board design tool, LogicLab - circuit logic tester, and Mcad (1.26) a well done new release of this PD CAD program, now comes with predrawn common circuit components for insertion into schematics.
WB34: Utilities - Several well done utilities, some will require moderate knowledge of a CLI or Shell for setup, Chatter Box - this one will play any user defined sound after any event (ie. disk insert, mouse click, disk removal...) , Artm - The Amiga real time monitor, gives you full control of the Amiga OS, very powerful program, Helper - help program to assist learning the CLI easier, and more!

WB35: 3d Graphics - This disk contains several neat programs to use with your 3d modeling/raytracing programs 3dFonts - Full vector font set for use with 3d programs, FontMaker - make 3d fonts from any system font, Make3DShape - create 3d shapes from any image, DumptoIFF - create 3d animations preserves pallet, and World3d - a demo program of a front end for use with DKBRender.
WB36: Graphics - On this disk are several programs to create stunning graphical images including, MPath - creates swirling galaxy images, Roses - produce an unlimited number of variations of images that a symmetrically similar to a rose, SimGen - display those spectacular images as part of your workbenck screen, and RayShade - a very good raytracing program, create your own beautiful 3d graphics.
Wb37: Educational - Educational games and puzzles that cover math, geography, spelling, and books. Ages 6 - 15
WB38: Plotting and Graphics - Plotxy is the most powerful full featured plotting package. Used by many colleges and universities. A welcome addition to our library! Highly recommended. Plans - a incredibly well done Computer Aided Drafting program, very full featured. Tesselator - a program that helps generates fantastic looking, recursive M.C. Ecsher type pictures.
WB39: Music - Intuitracker is a German offering of an exquisitely well done program that allows you to play music on your Amiga with CD like controls. Lets you strip out music from your favorite games or others and include them in your music library.
WB40: Music - "CD on a disk", 90 minutes of modern music on this well presented collection.
WB41: Music - MED an incredibly well done, full featured music editor. Create your own stunning music directly on your the Amiga. Similar to SoundTracker but better. Very powerful easy to use program.
WB43:Business - This disk contains AnalytiCalc - probably the most powerful spreadsheet program on the Amiga. A full featured spreadsheet with many features expected in a commercial package. Requires 1.2 MB of memory!
WB46:Clip Art - HighRes clip art with the following motifs - embellishments (borders, dodads ,...), people, and transportation.

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WB48: Clip Art - HighRes clip art with the following motifs - Holidays, music, medical, and misc.
WB49abc:Animation Sampler - On this three disk sampler set (counts as two disks) are some of the best animations that have been created over the last three years. Several examples of "Movie" type animations some with spectacular raytraced reality (coolroby, watch, spigot and egg). Also several european style or "Demo" animation with incredible graphics and outstanding electronic music (akrilight, copersine, doc, dps2010, impact, and logodemo). These truly show off the creative edge of an Amiga!
WB50: Animation - Seven of the best european style animations or "Demos", including - scientific 451, subway (a U.S. entrant, also our favorite), sunride, thrstdemo, tnight, waves, and woow.
WB51: Animation- On this disk are two excellent movie style animations including ShipRotation - a futuristic space ship orbiting a surrealistic world (one of the best), and RV-3 - a dpaintIII anim of a rather wacked out airplane.
WB53:Graphics- The disk contains C-light - The easiest to use raytracing we have seen to date. This one started out life as a full featured commercial product similar to Sculpt3d. Raytracing programs can generate stunning, realistically shaded objects. Also, sMovie - a full featured video text titler similar to ProVideo, Broadcast Titler. Great video scrolling, wipes, special effects, and more...
WB54:Printing - This disk contains several routines to help with the chore of printing. Includes Gothic - Finally a Banner printer for the PD! PrintStudio -a well implemented all-purpose printer-utility with a very comfortable graphic interface and many advanced features, Lila - with ease, print ASCII files to a PostScript printer, and many more.
WB55:Application - XCopyIII - a full featured disk copier, make backups of write protected disks. RoadRoute - find the quickest route from one city to another, highway description included, Diary - a diary program like "Dougy Howard M.D", Cal - a calendar program, Magman - a database tailored to maintain records on articles and publications.
WB57:Animation - This disk has several "Demo" style animations, Including, Blitter, Lolly, Sun5, vertigo, vortex, and xenmorph.
WB59:Business - contains a great, very full featured stock market technical analysis and tracking program, also an appointment calendar, and more.
WB61:Intermediate Utilities - Includes programs to help to drasticaly decrease flicker in interlace and hi-res modes (antiflick), an Atari-st emulator, an eprom programmer, turn your amiga into an eight channel digital data analyzer or ocilloscope, and more.
WB62:Midi Utilities - Several useful midi utilities including, programs to transfer to and from several music programs to midi, a midi sysex handler, a midi recorder with timebase, display midi info, file sequence player, and a few scores.
WB63:Disk Utilities #3 - Several highly recommended programs to aid in removing duplicate files from your hard drive, performing file backups, Binary editing, fast formatting, file recovery, disk track recovery, and forced DISK VALIDATION of corrupt disks.
WB66:Icons #2- Lot's of neat icons. Also, several wonderful programs that to let you create your own icons, modify and manipulate icons and info structures.
WB68:Music Utilities - several good utilities for the Amiga music enthusiast. Includes, Noisetracker - a great music creation program, Sonix2MOD - converts sonix to .mod files which then can be used by noisetracker, soundtraker, and MED, SpeakerSim - a speaker design tool demo, Wondersound is an additive harmonic instrument design tool with a separate envelope design window and 16 relative harmonic strength and phase angle controls.
WB69: Music - This disk has over 90 minutes of classical and modern electronic music for you Amiga.
WB70:Desk Top Pub - Atcp - transfer Macintosh screen fonts, Mac or IBM format .AFM metric files, to Amiga screen fonts and PPage .metric files. With this program open door to the libraries of Adobe and PostScript type!, Calendar - month templates in PS form, Post - a full featured post script file display and print utility.
WB71:C64 Emulation - The A64 Package is a complete, very powerful, Commodore 64 emulator.
WB75: Music - over 100 instruments files (.inst) and sample sound files (.ss) for your music programs.
WB76: Applications - This disk contains Stichery - a often requested knitting design program, Lotto - a rather complete lottery tracking and prediction utility, SSS - this screen capture program can grab almost any screen including games, Today - a personal calender, Tarot - fortune teller, and Grammar - grammar checker.
WB78: AV - On this disk are two Amiga Vision programs (bubbler, sync) written by Lou Wallace, chief technical editor of Amiga World. These programs are marvelous examples of how too's with AV.
WB79: Home & Business Accounting - Includes Ckbacct - the most complete checkbook accounting program going, LCDCalc - this well done calculator has a very large display and operates from the keyboard or mouse, Mileage master - monitor your automobile mileage with this mileage log, Grammar - a grammar checker, and Worldtime - find out what time it is in up to 50 global cities.
WB80:Graphics - Raytracing programs generate absolutely stunning realistic looking planes, rockets, buildings..., and surreal images often consisting of highly polished spheres and objects. 3-D Master is the most powerful EASY-TO-USE of it's kind we have seen to date. This is easily better, and more full featured, than similar commercial programs costing in the hundreds of dollars.
WB81: Great Applications - DataEasy a very easy to use, database program. Don't let the ease of use fool you, this is a very full featured database program including full printer control for address labels and mail merge applications. Also includes, TypeTut a good typing tutor, RLC a full featured label printer, Banner, a multi-font banner maker, and Budget a home accounting in a program. Highly recommended.
WB82:Animations - Four full length, well done "movie" style animations. Including, Coyote, JugglerII, GhostPool, and Mechanix. Two disk set, counts as one!
WB83: Computer Art - this disk has some of the best Amiga generated computer art that we have collected in the past 5 years.
WB85: Graphics - Contains several programs for manipulating 24 Bit color images (ham-e) and a rather nice Iff Image processing package.
WB86: Amiga Vision - Contains the Centurion Press, An Amiga newspaper by Lou Wallace.
DD45: AREXX PROGRAMS - This disk contains several useful arexx programs and examples, PopCLI4 - The latest of a must have utility.
DD47: Pascal - This disk contains everything needed to program in Pascal. Includes, A68k (1.2) 68000 assembler, Blink linking software and PCQ (1.0) a modest Pascal sub-set compiler.
DD49: C Compiler - contains zc(1.01) fully K&R, zcc(1.0) front end, A68k(1.2) assembler, Blink linker.
DD50: ARexx #2 - a must have set of tutorials on ARexx and several useful examples and utilities for ARexx development.
DD51: Circuit Analysis - Aspice (2.3) A full featured program for electric circuit analysis.
DD52: Scientific - Includes Elements - an incredibly well done periodic table program with source, Scientific plotting - over 600k of Lattice C source routines that can be included in your own programs.
DD54: Compression - This disk is loaded with ALL of the best file compression programs and aids for the Amiga. Many of the programs can be used by the new user. Includes Arc(2.3), Lharc(1.0), Lhwarp(1.03), Pkax(1.0), PowerPacker(2.3a) a must have by all, Zip(1.0), Warp(2.04), and Zoo(2.0). Also IFFcrunch an excellent compression for IFF files.
DD55: ARP - On this disk you will find the complete ArpRel3.0 release including the full user docs, the full Developers guide. ARP is the official AmigaDOS Resource Project (ARP) release 1.3. ARP makes many improvements to AmigaDOS and makes your system easier to use from the CLI.
DD57: Advanced Utilities - Msh - like Cross-dos, copies files to and from MS-DOS, Pal-NTSC - convert any pal program to NTSC and vice versa, Also several utilities that improve your startup-sequence, plus 25 more programs.
DD62: Basic and Xscheme - Cursor - a full featured Amiga Basic compiler, sbasic and ftext - several wonderful routines to help in basic programers, and Xscheme - an interpreted object oriented language.
DD64 Amiga Programmers Manual - The fully comprehensive Amiga programming manual with source code examples and easy to understand tutorials!
DD65 C Tutorials - Several well done tutorials on how to program the Amiga. Includes tutorials and working examples on Device drivers, IFF reads and writes, Sound implementation, Arcade game design and implementation, Double Buffering, and others. A must have for Amiga Programmers.
DD66 Programming ToolBox - Many programs to help in your development efforts (most for C some for basic) Includes programs to generate requesters, an incredible spritemaker toolbox, to greatly aid compiling, convert DPaint brushes to C structures, a great library manager, and many more wonderful time savers!
DD69:Advanced Utilities - SerNet and ParNet - Connect two Amiga's and share resources, MemMonitor - Similar to WFrag but greatly improved, Selector - put menus on your workbench screen, and more.
DD71:C compiler - This disk contains Dice, Matthew Dillon's full featured, powerful C compiler and environment system.
DD72:VT Emulators - Contains three powerful, full featured vt emulators, with many advanced features including kermit, xmodem and tektronix protocols. VaxTerm, VLT, and more.
DD77: Fortran - Contains a full featured FORTRAN77 environmental development system. Also contains EzAsm a strongly macro dependent 68000 assembler.
DD78: Menus & System Enhancements - Several neat programs to aid in launching programs from special icons (Next computer style), adding WorkBench menus and more. Also contains many useful programs to determine operation system configuration, memory usage, load and many other important utilizations.

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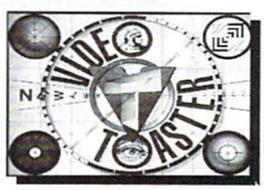
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The Last Word

AW's letters column has changed its name, but still welcomes your kudos and complaints.

Where, Oh Where Is A1000 Support?

After reading the first lines of Bruce Cohen's letter ("Repartee," Mar. '91), I had to skip to the end to be sure it wasn't a letter I myself had penned some time ago. The situation for Amiga 1000 owners has gone beyond mere lack of support. The standard response to my search for information about the A1000 is either disbelief that I still own one or outright laughter. An article (or two or three) covering A1000 upgrade options would be much appreciated.

To Mr. Cohen: You are definitely not alone!

Elizabeth Guffey
Yarmouth, Maine

2.0 Compatibility

As an A3000 owner since last June, I couldn't agree more with Doug Barney's comments on the Amiga 3000 and compatibility issues. I believe your software and hardware reviews should indicate whether the product operates on an A3000 using 2.0. This is especially true for games! It is incredibly frustrating to read a review of a great product and not know if it will run on your machine.

Douglas Nakakihara
Simi Valley, Calif.

Get With It, CBM

I just called Commodore to find out how to get the new ROM chip for my A3000. Their customer-support recording was rattled off so fast that I had to call back twice to catch the other number to call.

When I finally got through to the right number, I was advised that since I bought my computer from Montgomery Grant, I would get no support whatsoever from Commodore. I am apparently supposed to know who is an authorized dealer, who is not, and what the implications are. That stinks! Commodore built it. Commodore should support it!

R. Langley
Colorado Springs, Colo.

A3000 Contest Open to All

O.K., I give up. I just received the April issue in the mail. The first thing that caught my eye was the banner in the upper left-hand corner stating "WIN an AMIGA 3000! See Ad on p. 81." I feverishly turned to page 81

"That stinks! Commodore built it. Commodore should support it!"

and found only a subscription ad for *AmigaWorld* Tool Chest. I looked left, I looked right, I tore through the entire issue and found nothing even mentioning the 3000. So I gave up. Where was it?

Then I went to a local newsstand and *did* find the ad. Is this contest only available to non-subscribers? If so, why? Your subscribers are the heart of the publication. We are hardcore supporters of the Amiga and its various products and publications. Any contest of this kind, if it must be limited, should be limited to the serious readers: the subscribers.

Jeffrey Caulk
Pensacola, Florida

During February, March and April, AmigaWorld *ran a contest that newsstand buyers of all three issues could enter to win an Amiga 3000. Unfortunately, the contest banner appeared by error on the cover of April's subscriber copies, with no further information contained inside the issue. We have received many complaints like Jeffrey Caulk's from subscribers who are justifiably angry, and we have decided to open the contest to subscribers. You must act fast, however, because the deadline is June 15, 1991. To enter, simply send off a 3½ × 5-inch postcard with your name and address to: AmigaWorld Frequent Buyers Sweepstakes, PO Box 802, 80 Elm Street, Peterborough, NH 03458.*

—Editors

The Renaissance Machine

After reading Bryant Hayward's Soapbox essay ("Playing Big Blue's Game," April '91, p. 112), I started thinking about the many times I have seen or heard the Amiga characterized as a game machine, not a business machine. Or a productivity machine, not an educational machine. Or a graphic paint machine, not a desktop-publishing machine. Or whatever. The point is that no matter what you buy an Amiga to do, it does that task well.

So then, why not advertise the Amiga as a serious business computer that also knows how to have fun, that is at once productive and entertaining? After all, variety is the spice of life.

Lance Thompson
Altoona, Iowa

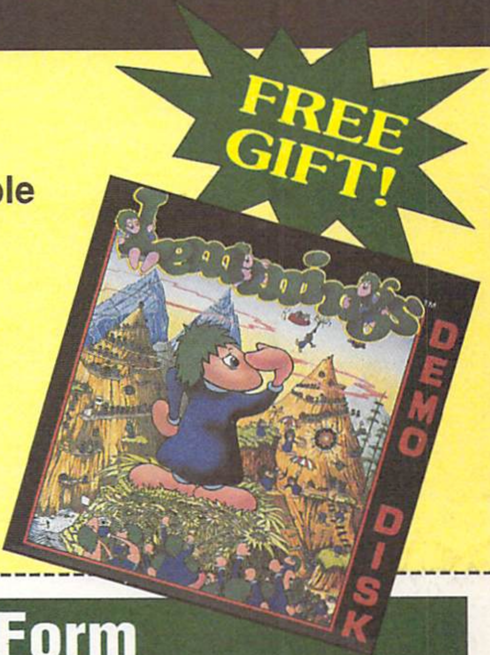
Price of the Tower

In last month's article on the Tower version of the A3000, we were unable to include the price because Commodore had not yet divulged it. They still haven't. As soon as they do, we'll let you know.

—Editors

Send your letters to: The Last Word, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458. Letters may be edited for space and clarity. ■

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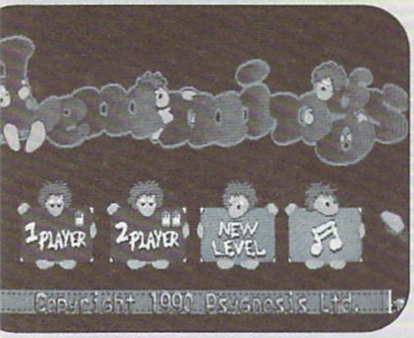
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- ☐ 35. What's New?

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180	185	190	195	200	380	385	390	395	400	580	585	590	595	600

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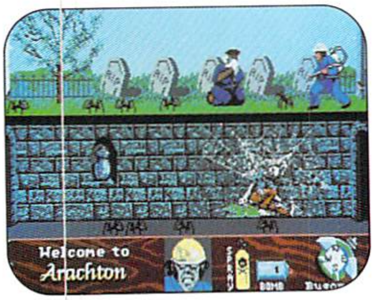
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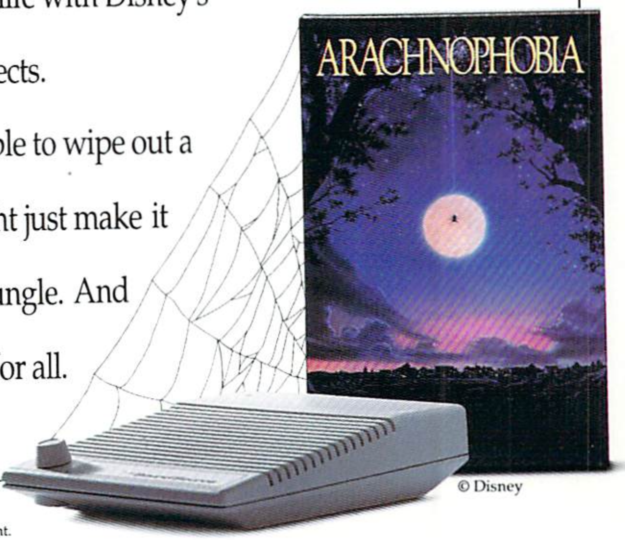


Those killer spiders from the hit horror movie "Arachnophobia" are back. And they're just dying to sink their poisonous fangs into a few more helpless victims.

Match wits with these deadly, highly intelligent creatures. They're hiding, waiting to pounce when you least expect them. Eight levels of difficulty. A variety of anti-spider weaponry. Over 100 locations. Thousands of rooms to explore.

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Just The Facts:

What Makes Digi-Paint 3 the <u>Ultimate</u> Paint Program?



"Finding the best paint program for your Amiga can be confusing, but once you have the facts it's simple."

Laura Longfellow
Sales Manager
NewTek Inc.

"Why is Digi-Paint 3 better than DeluxePaint III™?"

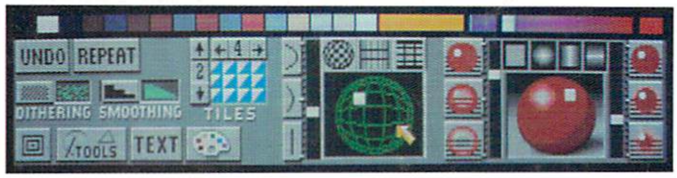


Digi-Paint 3 works in the Amiga's powerful Hold And Modify (HAM) mode, which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 64 colors. Advanced features available in Digi-Paint 3 – including Colorizing, Variable Transparency, Shading, Lighten, Darken and Range Painting – are simply not possible in Deluxe Paint III due to its 64 color limitation. AMIGAWORLD warns, "Competitors may want to head back to the drawing board, because Digi-Paint 3 is hard to beat!"

"What makes Digi-Paint 3 better than other HAM paint programs?"

Digi-Paint 3 is the only Amiga paint program written in 100% assembly language. Although challenging to program (taking up to 10 times longer than other computer languages), it's the only way to achieve the incredible speed found in Digi-Paint 3. AMIGAWORLD calls it "the fastest HAM paint program yet" and AMIGA SENTRY estimates it's, "6-10 times faster" than the nearest contender.

Other advanced features found *only* in Digi-Paint 3 include: anti-aliased texture mapping, anti-aliased fonts, ARexx support, 1024 x 1024 super bitmaps with auto-scrolling and dithering to 30 bits per pixel (over a billion colors internally, giving you tens of thousands of apparent colors). COMPUTER SHOPPER magazine reports "Digi-Paint 3 is without a doubt the most advanced HAM paint program to date!"



"But is Digi-Paint 3 easy to use?"

I've learned that no matter how powerful a program is, if it's not friendly it's not worth my time. We designed Digi-Paint 3 with all users in mind – from the beginner just starting out with computers, to the "power user" who demands the most advanced features possible. The spiral-bound manual contains a step-by-step Guided Tour, 11 hands-on tutorials, a color coded reference card, and almost one hundred example photos.

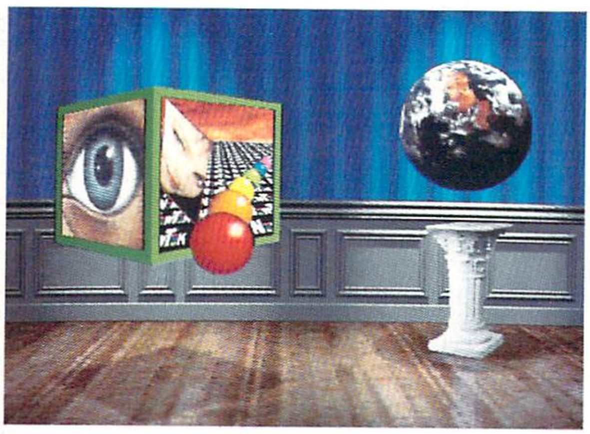
Digi-Paint 3's intuitive user interface was created by Digi-View designer (and NewTek Founder) Tim Jenison and renowned Amiga artist Jim Sachs. It features innovative "Dashboard" controls which AMIGAWORLD regards as "a joy to use" and "very easy to learn and understand". INFO MAGAZINE says the new interface "looks great and works logically".





"What is the Transfer 24 program included with Digi-Paint 3?"

Transfer 24 is a separate program disk included in the Digi-Paint 3 package, allowing you to alter any picture's brightness, color saturation, contrast, hue and sharpness, almost as easily as adjusting the controls on your television set. Transfer 24 also lets you modify the size, palette, and resolution of any picture. These powerful features, known as "Image Processing", give you incredible control over your final artwork. You can also save your image in any of the Amiga's 24 resolution modes (up to 768x480) making it compatible with all Amiga graphics software. AX MAGAZINE notes that "Transfer 24 gives you even more options as to the final appearance of your work". AMIGAWORLD declares, "Transfer 24 is great for making overall changes."



"What technical support does NewTek offer?"

Digi-Paint 3 has one other thing you won't find in any ordinary paint program: a toll-free help line. If you should have any questions while using Digi-Paint 3, you're not on your own. Call NewTek's technical support team at 1-800-736-7617 Monday through Friday, 8 am -7 pm Central Time.

Digi-Paint 3 is available now at your local Amiga dealer or call
1-800-843-8934 or **1-913-354-1146.**

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